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08

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37 Pages of expert creative guides

Maya Create soft, draped fabrics that crease realistically

CINEMA 4D Latest R11.5 release reviewed inside

3ds Max How to model a futuristic warrior figure

Vue How to compose scenery for a photoreal effect

• Blender tutorial

MODERN INTERIORS

Extrude objects and accurately fit units

• Feature

MAKE YOUR OWN MOVIE

How game engines are being used to create CGI films

• Interview

DESERT DESIGNERS

Aussie crew, Red Cartel, making movies, adverts and animation

• Vue tutorial

WOODLAND WATERWAY

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DAZStudio/Poser gear
Dragon bridge
Ultimate fantasy model

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Composite fast cars

Integrating models into city scenes

• Your questions answered

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How to create large waves in Vue

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Reviews: Argile 2, Google SketchUp Pro, training DVDs, CINEMA 4D R11.5

inside

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Artist info

Lee Davies

Personal portfolio site http://leemale.cgsociety.org/gallery/

Country Ireland

Software used Maya, ZBrush, Photoshop, mental ray

Cover artist

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Welcome

to the magazine and 112 pages of amazing 3D

Every issue you can count on...

1. **116 pages of creative inspiration**
2. Behind-the-scenes guides to images and artwork
3. **A CD packed full of creative goodness**
4. Interviews with inspirational artists
5. **Tips for studying 3D or getting work in the industry**
6. The chance to see your art in the mag!

The post-SIGGRAPH announcements are still trickling in, as all the major companies revise, consolidate or update their packages. The question has to be asked whether anyone actually needs their main app updating every year. Sticking a 2010 label on it and pumping in some new features is all good and well if the cost of upgrading from last year's package is nominal, but not otherwise. It simply comes across as milking the customers and, in hard times, that's when they will start to look at the alternatives. Bringing me to the ultimate in alternative packages – Blender. We have our first tutorial using the free package in this issue. Enjoy!

Duncan Evans,
Editor

This issue's team of expert artists...

Mark Bremmer

Making films with game engines? Is there no end to the creativity of some people? Our man Mark investigates

Scott Gibson

Fast cars in city streets splashed with neon. Scott shows you how he created the perfect street racer image

Ryan Knope

When he isn't busy in his architectural design studio, Ryan is available to answer questions on 3ds Max and arch-vis

Lance Hitchings

Lance runs a design studio stateside, and is also the chap manning the Q&A helpdesk for your Maya problems

Dominic Davison

Dom has joined the Q&A team and also provides this issue's main tutorial on creating an amazing image with Vue

Daniel Lovas

If you have a question about CINEMA 4D and don't know who else to ask, our other new Q&A man will sort it out for you

April Madden

April is deputy editor on **Corel Painter Magazine** and a graphic artist. We make her review all kinds of books

Yaroslav Lebidko

It must be the Ukrainian weather that keeps all the top 3D people inside for most of the year, refining their modelling skills

Adi Irawanto

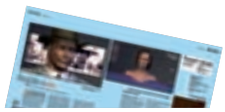
You're in the army now, courtesy of Adi and his *Soldier Girl* tutorial. Take a look at those soft fabric textures

Sarah Slee

Our very own Florence Nightingale dispenses cold gruel and warm encouragement to the 3D community

John Hayes

John works as a character artist for Sega. He designs models over breakfast and is our go-to Q&A man



Christian Darkin

Work Christian, work until you drop. That's right, our top reviewer has been busy again. We don't let him out at all, you know...

Sign up, share your art and chat to other artists at www.3dartistonline.com

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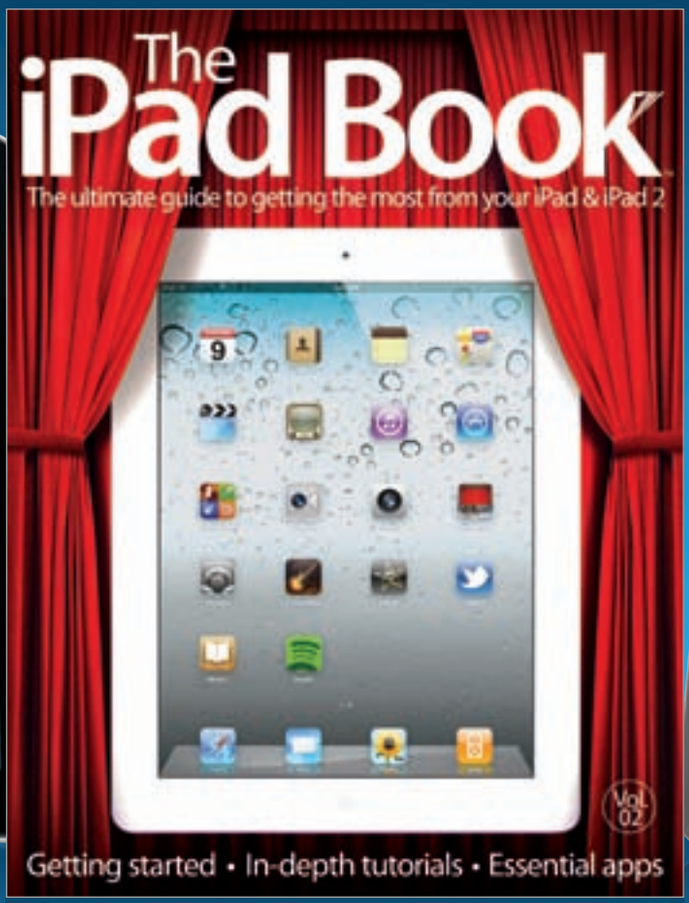
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INSIDE ISSUE EIGHT

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Model a kitchen

“The final thing about the room is that there won’t be any doors so leave those panels shut”

Six-page step-by-step walkthrough guide

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“I will be concentrating on the use of V-Ray inside of 3ds Max for both the”

Scott Gibson on the focus for *Koenigsegg*. **Page 46**

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Professional 3D advice, techniques and tutorials

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Six-page guide to lighting and compositing a fast car at night

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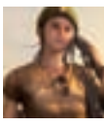
How to model the soft fabrics and hard surfaces in this image of a woman at war



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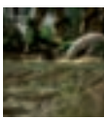

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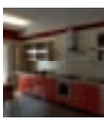
Word up Blender fans, here's a tutorial on creating an interior



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Dragon bridge model: Go Gothic horror

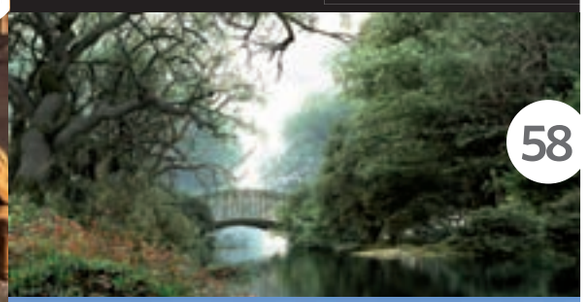
Add your characters and create a spooky or fantasy scene in this massive set

Plus seamless textures, two hours of video, and three sexy V4 outfits

Turn to page 112 for the complete disc contents

On the Disc

Free: 3ds Max video
Two hours! Turn to page 112 for details



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There's even more inside...

Turn the page to discover the interviews, reviews, industry advice and more that we've packed into this issue...

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"We worked closely with both their directors to build the film and give it our own flavour. It was just a fantastic job to work on..."
James Neale on creating a short film at RedCartel. **Page 28**

workspace 3D

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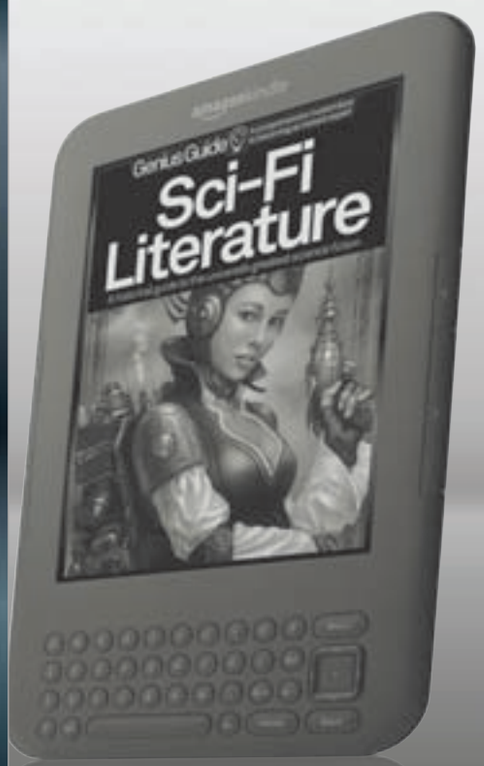

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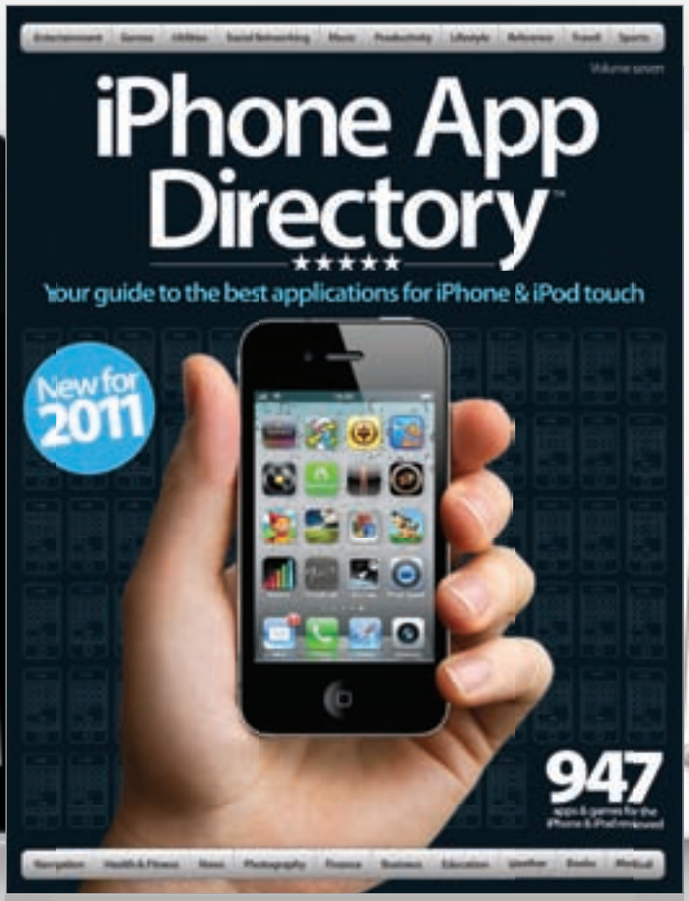

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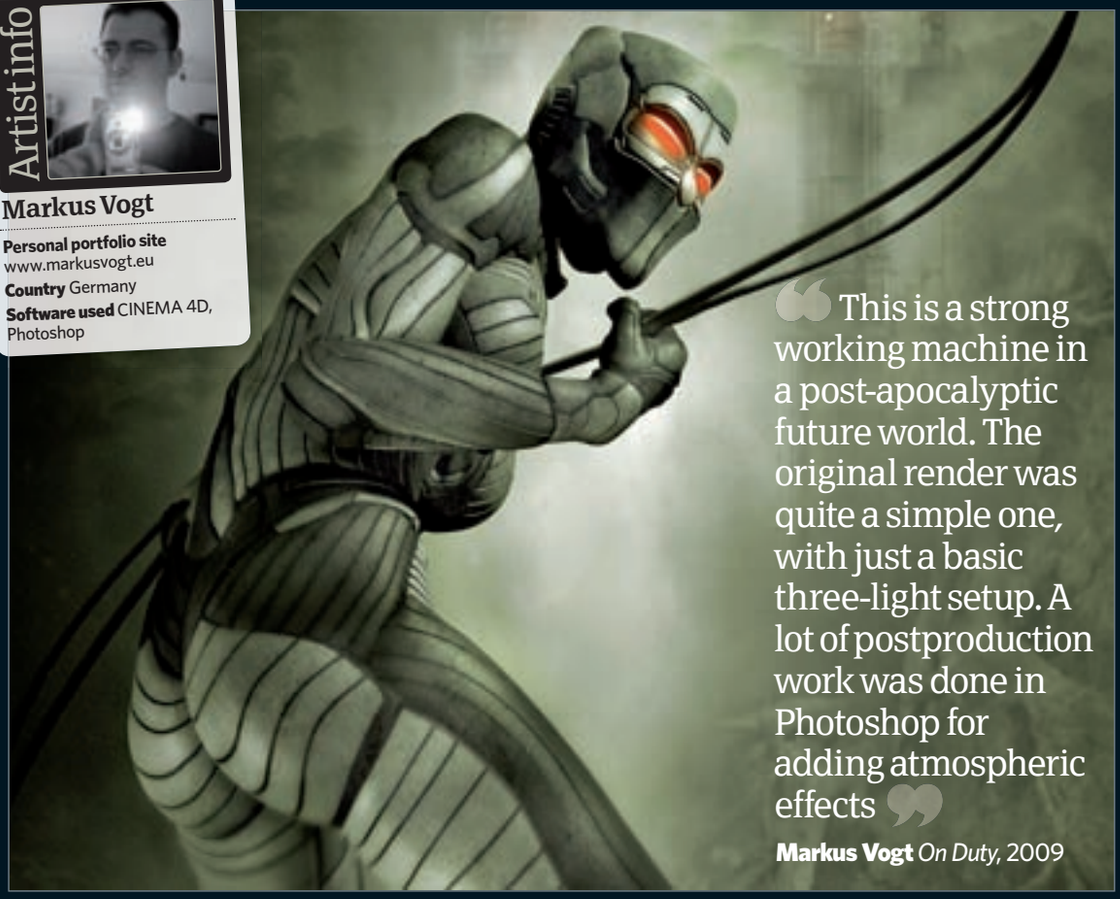
WELCOME TO THE GALLERY

Nine pages of the greatest artwork from the 3D community

Images we love!



Artist info

Markus Vogt

Personal portfolio site www.markusvogt.eu
Country Germany
Software used CINEMA 4D, Photoshop

"This is a strong working machine in a post-apocalyptic future world. The original render was quite a simple one, with just a basic three-light setup. A lot of postprocessing work was done in Photoshop for adding atmospheric effects"

Markus Vogt *On Duty*, 2009

Featured artists

Markus Vogt
Great atmospheric effects. Love the lighting enhancement, too

Daniel Cestari
A fantastic steampunk twist on the classic series of children's books

Ding Wang
This secret agent manages to get what she needs while dressed in a catsuit – nice!

Dinesh Nambisan
Assorted bottles and towels in your bathroom? Yep. A Buddha statue? Why not!

Nikita Veprikov
So much fear in the world, personified in Nikita's image by an unseen beast

Fabien Troncal
Japanese fan art that sends a chill down your spine – always a sign of great work!

Jason Mark
Courage comes underneath blue skin, as this dragon is an ominous sight

Get your artwork featured in these pages

Simply send it to the **3D Artist** Gallery. Here's how...

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Have an image you feel passionate about? Drop editorial an email at **duncan.evans@imagine-publishing.co.uk**

Email or post

You'll be missing out on a thriving 3D community, but if you'd rather submit your work by email or post, here's how. Make sure your image is at least 3,000 pixels on the longest side, save it as a maximum quality JPEG or zip it up as a TIFF and email it to the address below. Please include your contact details! If you've created a Pixar-beating animation and want to see that featured on the cover CD, then save it onto a CD and post it to us. You can also send your images on CD. The addresses are:

duncan.evans@imagine-publishing.co.uk

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Comment on more great 3D art...

Head straight over to **www.3dartistonline.com**, register and you can leave comments for other artists. Some of the people featured here already have their galleries, so get online and join our club!

Create your gallery today: www.3dartistonline.com

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“This image portrays the children's reaction to the sight of their nanny flying on an odd gadget. Furthermore, she's unwittingly carrying their mischievous baby brother in her handbag”

Daniel Cestari
Mary Poppins, 2009

The team loves

“It's always great to see the result of talented 3D work and an active imagination, which is certainly how this steampunk image came about”

Lora
Group Art Editor

Artist info

Daniel Cestari

Personal portfolio site
www.malaguetastudio.com

Country Brazil

Software used 3ds Max, mental ray and Photoshop

Work in progress...

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Artist info

Ding Wang

Personal portfolio site
www.artbyding.com

Country China

Software used 3ds Max, ZBrush, Photoshop

Work in progress...

"I created this image for the Secret Agent CGChallenge on CGSociety. I have always liked the idea of having a beautiful woman with strong characteristics, which creates a contrast between the look of her and her personality"

Ding Wang *Secret Agent Sarah*, 2009

The team Loves

"Wonderful composition, taking the viewer's eye from the disabled agent on the ground up towards the assumed awaiting helicopter"

Jo Editor in Chief

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The team Loves

"Just as if it was real, you could spend hours looking in this well-lit, immaculate bathroom at all the miniature details that make the image work as a whole"

Ross Head of Design

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> I needed to try out a few new techniques in interior lighting, and ended up creating a scene with a bathroom. In this exercise I was able to learn various methods, and I was more than satisfied with the end result

Dinesh Nambisan *Bathroom*, 2009

Artist info

Dinesh Nambisan

Personal portfolio site www.nkdinesh.com

Country India

Software used 3ds Max, V-Ray, Photoshop

Work in progress...

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> This image was created purely for the good of my soul! I didn't do any sketches for this piece of work, and I really had no idea what result I would get in the end. I simply drew a picture step by step, following my feelings
>
> **Nikita Veprikov** *Fear*, 2008

The team Loves

> What's the background story, which tentacle is going to strike first, why is the girl alone? Made all the more special by the artist having no set aim beforehand
>
> **Lora** Group Art Editor

Artist info

Nikita Veprikov

Personal portfolio site http://veprikov.deviantart.com/
Country Ukraine
Software used 3ds Max, ZBrush, Photoshop

"This is a piece of fan art inspired by the *Okko* franchise, a comic book created by Hub. It's a bunraku (fighting puppet) during a Japanese war. I wanted to re-create the ambience of the comic book. I used Maya for the low-poly modelling and ZBrush for the details. Photoshop was used for rendering and postproduction work"

Fabien Troncal *Bunraku*, 2009

The team Loves

"A fiery composition in every sense of the word! An excellent reproduction of comic art"

Duncan Editor

Artist info

Fabien Troncal

Personal portfolio site www.fabientroncal.com

Country France

Software used Maya, Photoshop, ZBrush, mental ray

Work in progress...

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“Yama, my blue-skinned antihero, was largely inspired by the Asian god of the underworld. He had been kicking around in my mind for some time. The Red Dragon, also Asian-inspired, served as a perfect adversary. The scene was modelled in 3ds Max and ZBrush. It was rendered out in several passes and then composited and painted in Photoshop”

Jason Mark *Yama and the Red Dragon*, 2008

The team Loves

“From the belt of conquered enemies to the fire literally in the dragon's eyes, this is a masterpiece of 3D work!”

Duncan Editor

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Artist info

Jason Mark

Personal portfolio site
http://web.me.com/jempix/jempix/Welcome.html/

Country Canada

Software used 3ds Max, ZBrush, Photoshop

Work in progress...

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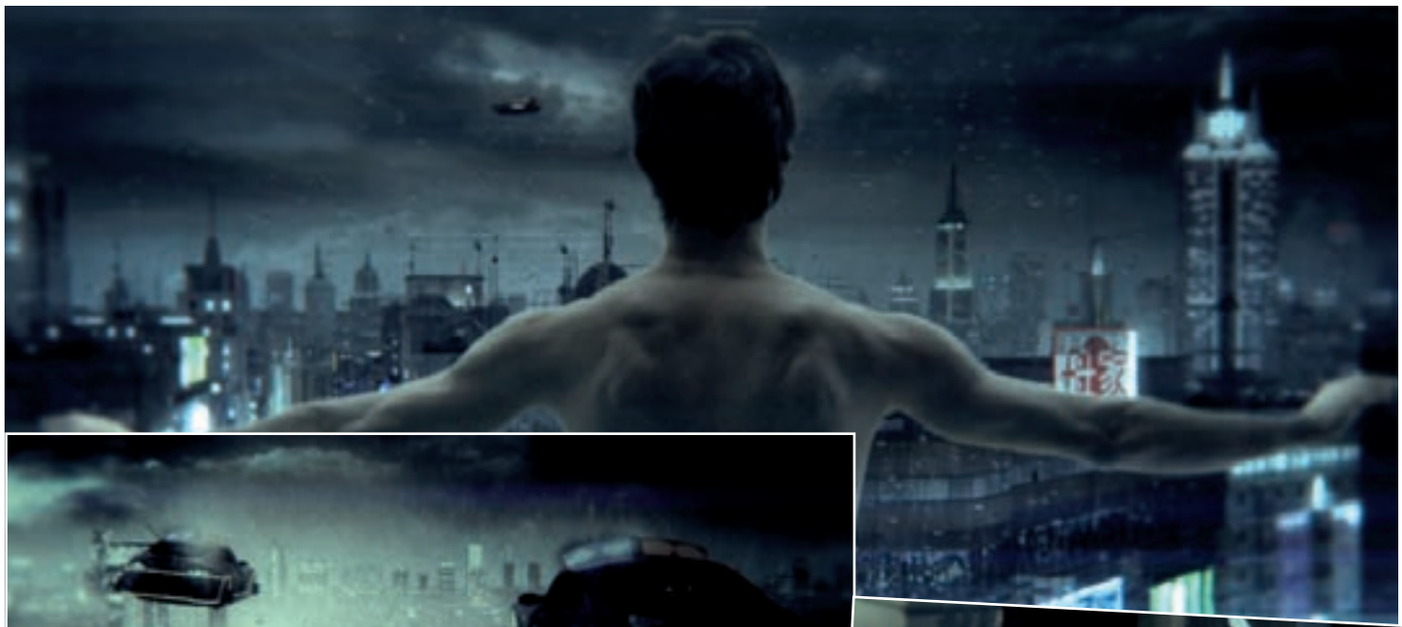

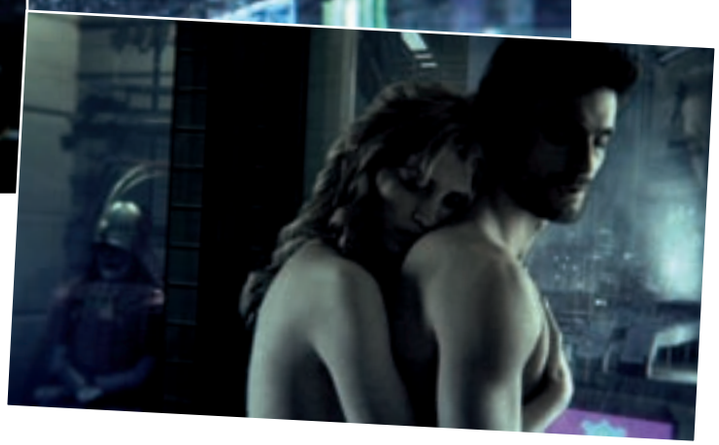

Background to the future

A short film that uses high-definition 3D art as its backdrop

Cyclops is a Spanish short film directed by Carlos Morett, which is set in the future of a new Madrid. Its team also claims it is the first short film in Spain to work with real-life actors and green screens, showing only 3D high-definition backgrounds. All this was achieved with a 3D art team of just two members. Alberto Trujillo is the production designer and 3D supervisor on 'Cyclops', and he worked with Ignacio Garrido to produce most of the 3D art using software including 3ds Max, Combustion, After Effects, Photoshop and Final Cut 2. The team also includes Rafa Roche as the director of photography and Jordi Molina who's responsible for postproduction.

Trujillo explains: "We had a very small crew and only had minimal hardware to work on – our own PCs. The renders (50,000 frames in HD quality) were rendered with only three computers."

The story of two policemen, who are also brothers, follows the inner turmoil of one of the siblings who is suffering from terrible nightmares. He begins to question his position in the police force due to a mistake that could haunt the rest of his life. From the trailer you can see that the work gone into the short film is impressive, resulting in a truly professional presentation of current-generation 3D art. The plan for the team now is to showcase the film on the festival circuit, as Trujillo tells us: "We are very happy now because we're in the official section of the Sitges Film Festival." To watch the trailer and find out more about the film, visit www.ignotoplanet.com and http://atrujo.cgsociety.org/gallery/.

> "It's the first short film in Spain to work with real-life actors and green screens, showing only 3D high-definition backgrounds"

3DArtist online.com
Are you attending the Sitges Film Festival? Discuss this and more with other 3D artists at **www.3dartistonline.com/forum**

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3D web update

New sites and changes to your favourites – it's all here!

Brush up on your skills

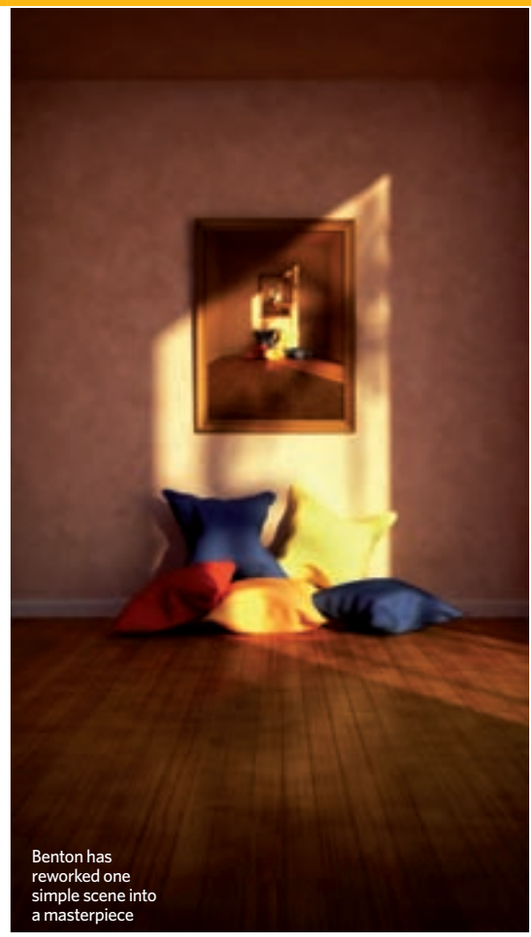
Digital Tutors, the education portal for artists, is now offering five new courses as part of its online learning service. Choose from 3ds Max, Mudbox, modo, Houdini or Nuke training that provides project-based tutorials from what it claims to be the best representatives in the industry. Although these new offerings are for beginners in each of the programs, there is a wide range of tutorials to choose from that are suitable for all levels – a mind-boggling 7,000 in total.

Artists can opt for the one, six or twelve-month memberships, with prices starting from $45 for the month-long membership. Take a trip to **www.digitaltutors.com** in order to get your free trial or to obtain some more information on the available courses if you're interested.

Go Ballistic

Ballistic Publishing is offering artists free wallpapers for their iPhones and computer monitors on its website. First up is a selection of inspirational pieces by the awesome Philip Straub that feature in his fantasy graphic novel *Utherworlds*.

Ballistic Publishing is well known around the world for compiling the very best talent into volumes of its digital art books, and it's nice to finally get the chance to brighten up our desktops with some very impressive images. You will need to keep checking back on the site, though, since there will be more wallpapers added on a regular basis by various other artists. The wallpapers can be found by going to **www.ballisticpublishing.com/wallpapers**.



Benton has reworked one simple scene into a masterpiece

Masterpiece

Comfortable Infinity

Adam tells us how he created an image within an image

Adam Benton www.kromekat.com

Illustrator Adam Benton initially used his *Comfortable Infinity* image as a means of testing the V-Ray for C4D render engine. What at first looks like a simple piece on closer examination actually reflects what he likes to refer to as the "image within an image" idea. Visit www.kromekat.com to check out more of his work.

Just a little more time

Indie game competition deadline extended

Fancy a chance to present your game to top publishers such as Sony, Microsoft, Nintendo and many more? Well, you might like to take part in the Indie Game Challenge. You'll have to hurry, though, the deadline is looming; it has been extended, but only until 31 October 2009.

There's a combined total of prizes worth over $300,000 up for grabs, including a whopping $100,000 dedicated to the winner of the grand prize and a chance to present the game to various big-name publishers. Both professional and hobbyist game developers can apply, with 12 finalist teams being selected on 12 January 2010. Up to five members of each teach will then be flown out to the awards ceremony in Las Vegas in February. For full details of the competition, go to **www.indiegamechallenge.com**.

New 3D Total eBook

Make your very own creature feature

3D Total has released a new eBook called *ZBrush Character Creation*. It contains over 90 pages on the tools and techniques of creating different types of characters. There are nine chapters in total, featuring helpful advice from three great artists: Rafael Ghencev, Rafael Grassetti and Joseph Harford.

If you'd like some help in fashioning your own Frankenstein's monster, werewolf or zombie, then you'll love the sections on creatures.

The PDF pack also comes with a free base mesh and over three hours of downloadable movie files. *ZBrush Character Creation* is available from **www.3dtotal.com** for only £9.95.

Website of the month

Community spirit

www.cgtantra.com

CG Tantra is a web portal that offers artists a wide variety of resources. From freebies like wallpapers, models, textures and plug-ins to tutorials, interviews and event coverage, there's plenty to take a browse through here.

Although the forum link seems to be a dead end and the jobs section is bare to say the least, the community challenges set on a regular basis as well as the friendly advice and handy tips make up for that. The news section is also worth a look. Overall, it is a nice, well-organised website that's updated on a regular basis. Definitely one to bookmark.

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Free 3D Resources

Textures and models

A little short on cash this month? Get yourself some freebies from these sites

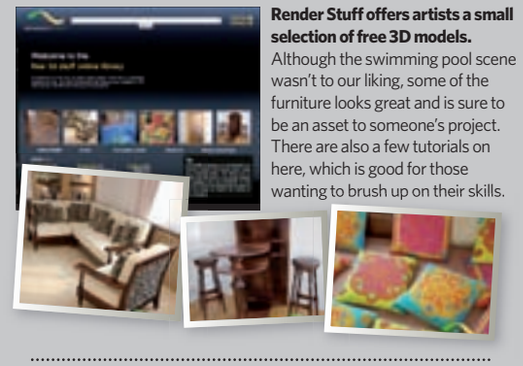
Planit 3D

Travel to another PlanIt and search for no-so-hidden treasure
Web: www.planit3d.com

You may also remember PlanIt 3D being our very own site of the month several months back, but the freebies here are too good to miss. Choose from a great selection of Poser creatures and characters, plus textures, meshes and even a great sound library, which includes anything from horse to trampoline noises.

Render Stuff

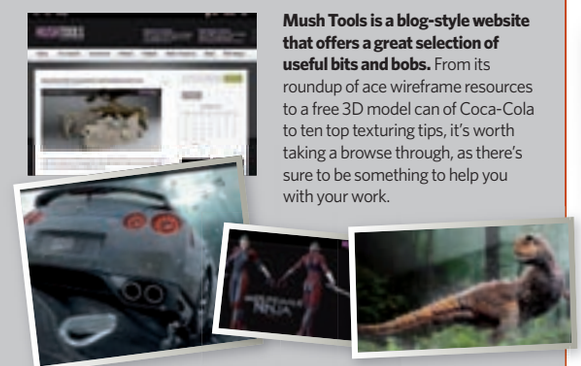
Whether it's tables, phones or bookcases that you're after, you might like to try this site
Web: www.renderstuff.com



Render Stuff offers artists a small selection of free 3D models. Although the swimming pool scene wasn't to our liking, some of the furniture looks great and is sure to be an asset to someone's project. There are also a few tutorials on here, which is good for those wanting to brush up on their skills.

Mush Tools

Get your free tutorials from here
Web: http://blog.mushtools.com/index/



Mush Tools is a blog-style website that offers a great selection of useful bits and bobs. From its roundup of ace wireframe resources to a free 3D model can of Coca-Cola to ten top texturing tips, it's worth taking a browse through, as there's sure to be something to help you with your work.

A new challenge

The latest design competition from hxsd.com

The Arestar 2009 CG International Challenge is the latest competition from CG community hxsd.com. Artists can choose from two categories, characters and scenes and then submit their entries by 10 December 2009. Both groups require participants to design 3D versions of their chosen scene or character, but they must adhere to the guidelines, which are fully detailed on the website.

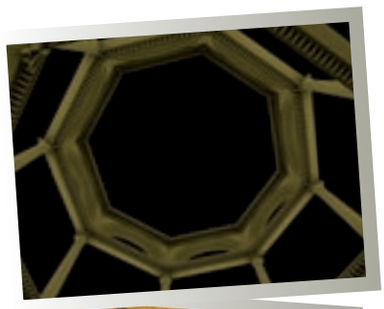
Once submitted, the entries will be put to the judging panel for the selection process. Film fans will be pleased to know that John Hare is one of the judges involved; he's best known for his work on the *Lord Of The Rings* trilogy and *Beowulf*. If you'd like to enter, visit http://hxsd.com/arestar/.

work in progress

Baroque Dome

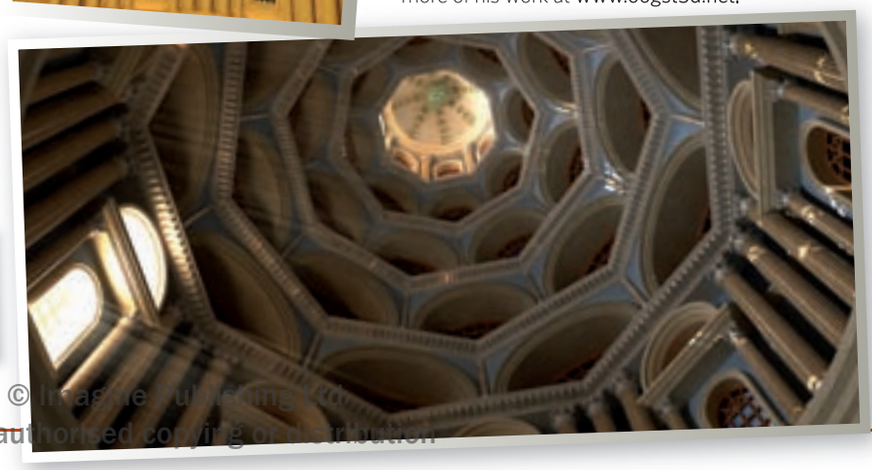
We chatted with Joost Van Dongen about beautiful buildings, baroque architecture and creating a new perspective with his work

Joost Van Dongen www.oogst3d.net



Joost Van Dongen is a lead programmer and co-founder at Ronimo Games, but so far he has spent 20 hours on his personal project, *Baroque Dome*. A book on architecture gave him the idea, as he says: "I was especially inspired by the skewed perspective of the dome of the Cappella della Santissima Sindone in Turin, designed by Guarino Guarini."

However, getting the details right proved challenging. "I put some work into getting the right balance between decorations and keeping the composition readable and in balance. Especially for the tension between the complex-looking rotated octagons of the dome in contrast to the straight vertical lines of the lantern and the lower cylinder. I also thought realistic lighting would be a bit boring, so I experimented with exaggerated lighting from different angles. The materials still need to be tweaked for more realism." Check out more of his work at www.oogst3d.net.



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Artist spotlight

French connection

Meet Matthieu Roussel. He's an illustrator from France with a passion for children's books and magazines

Matthieu Roussel www.mattroussel.com

"I try to tell a story with my illustrations," Matthieu tells us. "I love to make children's books, advertising illustrations and magazine illustrations. Working in these three fields gives me a chance to develop different styles. It's good for creativity." We can certainly see that. You'll notice that Roussel's work is vibrant, colourful and full of life, and it's interesting to note that pretty much anything inspires him, for instance "some text, an idea, a command," he adds. Most of Roussel's pieces take around three days to complete – depending on the complexity, of course – using CINEMA 4D, ZBrush and Photoshop. See some of his work for yourself down at www.mattroussel.com.

Software shorts

Get the lowdown on updates and launches

Maxon CINEMA 4D v11.5

Maxon has revealed that version 11.5 of its 3D modelling, painting, animation and rendering software is now available. CINEMA 4D v11.5's new features include an enhanced render viewer that's faster and has extra tools, plus support for OS X Snow Leopard and Windows 7. If you'd like to find out more, then check out www.maxon.net.

Boujou 5 out now

The award-winning match-moving software Boujou 5 is now available. The software enables users to add CG effects into film or video footage with ease. Two of the most impressive features in the updated version include the new automatic sequential solver and the fully functional graph editor. For more, visit http://tinyurl.com/boujou5.

Tools of the trade

BOSE COMPUTER MUSICMONITOR

Like music to your ears?

Bose is renowned for producing top-quality audio products that are also things of beauty. It's no different here with the MusicMonitor, the latest product from the company. This two-piece amplified system is the smallest Bose has produced; nevertheless, the company claims that the MusicMonitor is also the best yet, boasting lifelike stereo performance without the need for a bass module.

The MusicMonitor is designed to be used with computers and laptops, and being so compact means that it's perfect for listening to tunes while you work, especially where desk space is at a premium. If you're a style-conscious consumer – let's face it, who isn't? – then you'll also be pleased to know that the speakers are surrounded in solid aluminium casing, which come in silver or black and you get a remote. Granted, they're a premium product with a price tag that reflects that; however, if you use your computer as a media centre or simply enjoy listening to tunes on a regular basis, then it could be a case of money well spent. The MusicMonitor is available for £299 from www.bose.co.uk.

The solid aluminium casing is hard-wearing and practical, yet still manages to look beautiful

3DArtist online.com

Create your gallery, browse the artwork, chat with experts and artists and get tips and techniques at

www.3dartistonline.com

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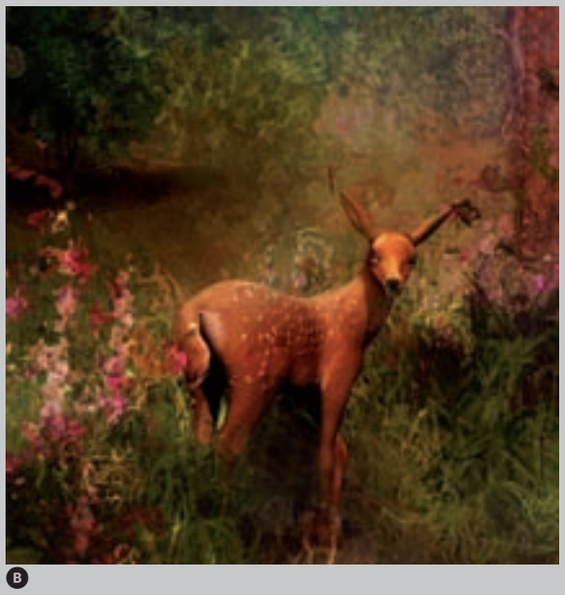
It's your chance to pay homage to the best of the images uploaded to the 3D Artist online gallery this month

A



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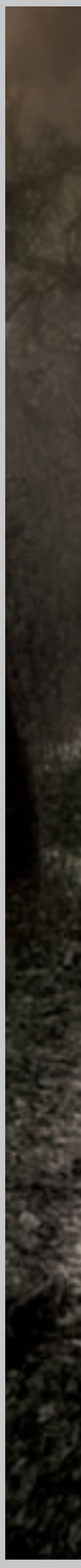

A Classic reception

» **Sherif Eid Soliman**

Sherif says: "This an interior scene for a private residence in Saudi Arabia. The design is a traditional classic according to the client's request. It was completed using 3ds Max, V-Ray and Photoshop for retouching."
We say: Love that chandelier, while the ambience of the room is marvellous.

B Forest fawn

» **Heather Nicolson**

Heather says: "Image set up and rendered in DAZ Studio 3, then taken to Photoshop and Painter to give a soft painted effect. I like soft effects, as I am a partially sighted artist and see the world in soft focus."
We say: A really nice, painterly effect in a woodland setting for this image.

C Black Loyalist

» **Kurt Miller**

Kurt says: "Created for *National Geographic* on the American Revolutionary War. The British promised slaves their freedom if they fought on the side of the British Army. This image was created in 3ds Max, Poser and Photoshop with a Wacom tablet."
We say: Dramatic and impactive. It's interesting that the cause of freedom and liberty was with the British.

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Picture of the month

D Carefree
» **Dorothy Mitchell**
Dorothy says: "This was created using DAZ Studio and Photoshop, blending the two elements together."
We say: "A traditional mix of an innocent young girl and an ominous-looking forest."

Share your art
Register with us today at
3DArtist online.com
www.3dartistonline.com
to view the art and chat to the artist

Pictures of the week

THESE ARE THE IMAGES THAT WERE AWARDED PICTURE OF THE WEEK IN THE LAST MONTH

Wing and a Prayer
» **Len Krenzler**
Len says: "The mission shown here was flown Robert Kit Cardwell in his B17 against an aircraft component plant in Frankfurt. Shortly after dropping its load, Robert's aircraft was hit by a heavy flak burst."
We say: Action-packed image.

Hathaway Cottage
» **Dominic Davison**
Dominic says: "This was rendered and composed in Vue, with postproduction work in Photoshop. The cottage is from Cornucopia and the petunias from DAZ 3D."
We say: This is why Dom is our resident Vue expert on the Q&A – so good it makes your eyes water!

Evolution
» **3DRivers team**
Olga says: "It shows four stages of evolution of fish into the first kind of land dinosaur. We used CINEMA 4D for the fishes and 3ds Max for all the surroundings (trees, landscape, etc), while it was rendered in V-Ray. Photoshop was used only for textures."
We say: It's prehistorically great. Nice fish and some excellent watery effects.

Joybot – Future girl
» **Lee Davies**
Lee says: "This image was created for a step-by-step tutorial to feature in **3D Artist**. The base meshes were created in Maya, sculpted in ZBrush and rendered in mental ray. Textures and a little postproduction work were done in Photoshop."
We say: Fantastic result, but you can't win Picture of the Month because we commissioned it! But a brilliant job all the same.

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Have your say

Write, email or use the website forums to get in touch about the magazine, your problems or triumphs

Send your letters to...

Email the team directly with your letter
3dartist@imagine-publishing.co.uk

Log in and leave your comments on the forum
www.3dartistonline.com/forum

POST TO:
The Editor, 3D Artist,
Imagine Publishing,
Richmond House,
33 Richmond Hill,
Bournemouth,
Dorset
BH2 6EZ, UK

Which software package?

Being somewhat new to the 3D world, I would like to suggest something for future issues. There are lots and lots of software packages out there and it isn't easy understanding why one might be better than another for certain applications or projects, or where it might be best to use this package with this package when you want to get better lighting or rendering. Maya gets a lot of coverage, but does it offer anything that a user of Poser and Vue might really want? Why CINEMA 4D and not Carrara or 3ds Max?

So, how about every month a couple of pages be devoted to covering an application that outline its features, why you might use it, where its strengths lie and whether it's a standalone application or not? Keep up the good work!

Stuart Jackson, Melbourne, Australia, via email

Well, you're in luck because we're putting together a feature comparing all the major applications and what they are best suited for. Look out for that in an upcoming issue.

Courage in the sky

I love your magazine! I've thoroughly enjoyed every one! I have just started a gallery and uploaded a couple of pieces, with many more to come. One I thought you might like is this one. All my images are based on real events. This one shows Ian Bazalgette, who stayed with his burning Lancaster to give his crew a chance to escape and avoid the French village of Senantes. The boy below is still alive and actually witnessed the event and recently signed the image.

Len Krenzler, by email

A fitting tribute Len, we look forward to more of your work.

Replacing actors

Your article on CGI and the salesman was very interesting. However, I found the main quote by Chris Christodoulou that they had replaced a model's face with CGI for a Smirnoff advert simply so they did not have to pay the model their rightful usage fees to be disturbing. The idea of employing someone to do a job, then after they have completed it replace part of them with CGI simply to sidestep paying them their fee is, quite frankly, disgusting. I'm sure that Chris would not be impressed if they gave the finished advert of his to someone else and told them to copy it on the cheap and make some edits, simply to avoid paying him usage rights. I hope that it's not a practice that 3D Artist would condone. I will not be buying Smirnoff products in the future.

Richard Bang, via email

It's an interesting point, but essentially no different than using CGI to produce crowd scenes to avoid paying extras fees.

On a practical point, no model turns up for a paid fee, does the work then gets replaced and doesn't get paid. Either they or the agency sign an agreement first, so this isn't a case of trying to

Courage
It's amazing that the boy depicted here is still around to autograph this image. Truly inspiring stuff

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cheat someone out of work they've done, which we would not condone at all.

Disappearing trick

I bought 3D Artist issue 4 yesterday (it comes late in Toronto). I was pleased to see a review of Houdini 10 inside, but deeply disappointed with its quality. It could be said that as a long-time Houdini user my opinions are biased, but I hope after having worked in the animation and VFX industry for almost ten years with a number of applications that this is not the case. Essentially, the review reads as a vague recap of information found on the Side Effects product page; there is no indication at all that the reviewer has ever used Houdini as an individual or within a studio environment or has done any research at all about the application's use in the industry. Granted, the Houdini user base is much smaller than that of 3ds Max or Maya, but 20 minutes would have been enough time to find many users to talk to at all levels.

Houdini is used in studios as small as two- to three-person boutiques and as large as Pixar, as well as thousands of hobbyists. There are very good reasons for this. With the Apprentice version available for free, users have a great opportunity to investigate Houdini on their own and their decision to do so is highly influenced by reviews like those in 3D Artist and similar publications.

Michael Goldfarb, by email

The freelance reviewer who tackled Houdini knows a studio that uses it. They supplied some of the test images. He went along to talk about using the latest version of the program so he had exactly that input from professional users. It should be pointed out that with two pages for the review it's always going to be an overview of the main functionality and performance.

Rarrrrrrr!

This Predator was created mainly in Maya 2008, then I developed the model and textures in ZBrush before exporting it back to Maya to render.

Willard Melvin Appiah, by email

The modelling for the face is excellent, although the background and maybe the torso need a bit more work. Good job, though!

Mr Motivation

I've been studying 3D for about two years at Huddersfield University and have another two years left. The problem is that I'm wanting to create a content-rich portfolio to show potential employers and the like, but I'm really struggling to get the juices flowing for creating digital art. It's frustrating because I love 3ds Max but I can't get my head into gear without someone asking for it to be completed. At university doing assignments, I'm much more focused when under pressure to get it done, but when I'm creating work for my own personal needs I just can't get into it.

I've also noticed when reading your magazine that most of the people that have created amazing work have extensive artistic backgrounds – and I don't! Anyway, I'm also wanting to get to grips with Photoshop and ZBrush, as I've discovered that these two packages accompanied by 3ds Max complement each other.

I'd really appreciate it if you could share some of your wisdom and give me any tips on anything I've highlighted, like motivation, what sort of things to create that would complement a portfolio and how I could make it more dynamic and unique so it would interest companies.

David, by email

You don't actually say which field you're interested in, but obviously if it's film and TV then go for either pure CGI, you'll need to rig and animate a character, or composite some CGI into a film scene to show your CGI and tracking skills.

As far as inspiration goes, then that's where we come in. Check out each issue of 3DA for great pieces of artwork and how people went about making them, including what they used as a source. It has to be said that 3D is so time-consuming that you really need to have a passion for what you are doing, otherwise you'll lose interest and never finish it. If you really want inspiration, just look to your favourite art forms – film, cartoons, architecture or whatever – and come up with a character or scene that pays homage to it. That way it's something you won't get tired of when you're making it.

Predator
Perhaps more frightening than the film version, Willard Melvin Appiah sent this in for our appraisal. Have you got something similar lurking on your hard drive?

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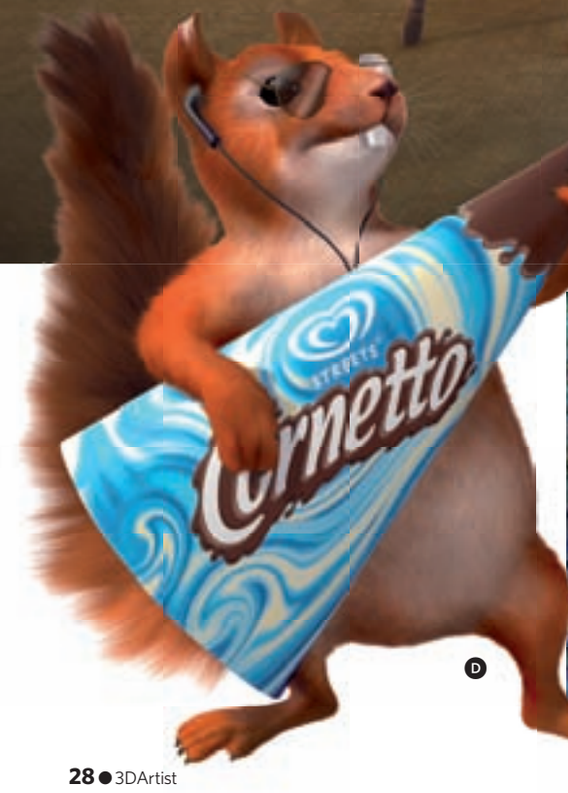
Ganging up on 3D animation



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Duncan Evans talks to James Neale of RedCartel about developing animation concepts while still paying the bills

> We have two guys who are very savvy in the R&D of 3D tools, two excellent animators, and the rest are rock solid on models, shading and compositing

James Neale, Producer and co-founder at RedCartel

Company RedCartel
Founded 2008, as a merger of two of Sydney's longest-standing animation studios (ProMotion Studios and Twitch Studios)
Company website www.redcartel.com.au
Country Australia
Expertise Character design and animation
Client list Liberty Mutual, Bridgestone, Toyota, Telstra, Nickelodeon, Kraft, and Aristocrat Gaming
Software used Blender, 3ds Max, V-Ray

Although RedCartel was only formed in 2008, the two companies that went into the blender to make it – ProMotion Studios and Twitch Studios – were two of Sydney's longest-standing animation houses. Producer James Neale was one of the four founding partners of RedCartel, and while having plenty of animation experience, he actually started with an engineering background having worked in robotics. He moved from there into 3D animation after falling in love with *Toy Story* and the 3D work of that era. After a year of studying 3D, Neale worked as an animator at a large studio in Sydney until 2000 when he started his own studio with wife Kim, an illustrator. They produced a lot of posters and animations for advertising over the years, and their studio slowly grew in size. In 2008 they formed RedCartel with the other Sydney team, and since then the companies have completely merged to form the outfit.

In the new company, Neale's role mostly entails client liaison and overall job management and budgeting. The other partners handle the creative and business management aspects, while the full-time and freelance artists handle the production of 3D.

3D Artist: *When was the company formed and why? What is its purpose and goal?*
James Neale: We started RedCartel in 2008 to introduce our animation ideas to potential buyers. We attended the Annecy Festival in 2008 and again this year in 2009, where we held a booth in the market to show our animated series' properties. We had a fantastic response from people all around the world, and the resultant good working relationship between all the partners of RedCartel meant a natural transition into a complete merger. In July this year we moved into our new studio on the waterfront in Sydney, putting all our resources and artists under one roof. RedCartel is focused on delivering immersive digital entertainment through animation for advertising, television series and new media.

3DA: *How many people work for RedCartel, and can you split the numbers down into different groups, such as artists, programmers, etc?*
JN: We have nine full-time artists and four partners. Since we're relatively small, everyone needs to be well rounded, but clearly each individual has their own strengths. We have two guys who are very savvy in the research and development of 3D tools, two excellent animators, and the rest are rock solid on models, shading, effects and compositing. I think we have a very solid team to handle the wide variety of work we get each day.

3DA: *Let's talk about some of your projects now. You did some animation work featuring the Kleenex puppy. How did that work, and what was the role in using studio photography as the starting point?*
JN: On Kleenex/Cottonelle Puppies, our work was dictated by photography that had been done some months earlier. We were commissioned to bring the photos to life for the newly introduced Digilite display, which is a huge LCD monitor in stores and shopping centres acting as an animated

Key people RED CARTEL

Landon Curry
Managing Director

Matt Dignam
Creative Director

Kim Neale
Creative Director

Ⓐ "Promotional artwork for *Kajimba*, our in-house adult project"

Ⓑ "Promotional artwork for *First Love*, our award-winning short film"

Ⓒ "A portfolio piece called *Robotz*"

Ⓓ "Part of a campaign for a new flavour of Cornetto"

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poster. The photography was already well known to consumers, so we brought it to life by projecting the photography onto some animated 3D models and keeping the agency from a completely new film shoot.

3DA: *What problems did you encounter making it all look real, and how did you solve them?*
JN: Actually, these puppies were very straightforward from the start. We were given an initial brief on what to animate, and we came up with some techniques that impressed both the agency and client enough to commission some more. Our work was a combination of subtle Photoshop work, fur and camera 3D projection mapping, and it came out better than we expected.

3DA: *What was the idea behind creating the short film* First Love*?*
JN: *First Love* was part of an initiative between funding body Screen Australia and broadband/telecommunications company BigPond to showcase Australian talent with a series of short films revolving around a fictitious moment in history. The series *Great Moments in History* can be found at www.bigpondtv.com/greatmoments.

3DA: *So how did you go about creating it?*
JN: We were commissioned by an independent writer to produce *First Love* and worked with him to mould the concept into something that would work within the time and budget we had. The process began with 2D concept designs of the caveman and the environments, and once those were locked down we went into a lengthy storyboard process, coming up with shots that we thought were funny and would work within the story. Running in parallel, our modellers built the characters and environments in 3D before getting stuck in to the animation stage. Animators were given one shot at a time and we would have dailies each morning to review their shot and see how it fit in with the edit. There was always a full version of the film that could be viewed with shots at various levels of completion. This really helped to fine-tune timings, expressions and the little things that make a big difference as a whole.

Key Project
Bridgestone Gecko 2009

We have worked with Bridgestone Australia for over ten years on its Gecko character, producing much of its television and advertising material. We've delivered the Gecko into his own unique 3D environments, animated and integrated into live action, printed onto mugs and mousemats, ten-storey billboards and everything in-between, so recently we were excited to be involved in a project that rebranded Bridgestone Australia across its entire retail chain. We were commissioned to create a series of TV spots with a softer, warmer feel with a human touch to place the Gecko within inviting real-world situations.

Working under the direction of Showpony Advertising in Adelaide, we have produced eight 15-second commercials since the beginning of the year. Each spot was completely CG and portrayed the Gecko in a unique 3D environment related to the particular campaign by Bridgestone at the time. Each spot was briefed and required delivery within a week, so we needed to rework our pipeline to suit the speed of this type of production. We completely rejigged our pipeline to suit a much faster method of production using Blender's system of libraries. This system allowed us to access assets from library files that would automatically be the latest file any artist was working on. This meant we could have many artists working on the same file without fear of overwriting each other, and it meant the lighting and shading artists could work from day one, making the entire process much faster to deliver. This method proved invaluable for this type of project.

> “We have worked with Bridgestone Australia for over ten years on its Gecko, producing much of its television and advertising material”

3DA: *It sounded like a fun project. How many people did you have working on it and how long did it take to finish?*
JN: Matt Dignam, one of the other partners in RedCartel, directed the film and we had two other people working on it at any point in time. Those included a concept and storyboard artist, two modellers and two character animators.

The whole job was completed in around ten weeks and was produced intermittently while working on other commercial projects at the same time.

3DA: *The film won the inaugural Screen Australia and BigPond's Great Moments in History contest. How pleased were you with that, and was it fame and glory or was there a cash reward as well?*
JN: We were obviously very pleased to have won the contest considering the diverse range of entries and quality of the final 12 films. The contest was decided by a public voting system, so it was particularly sweet to know that the general public warmed to our little story so well. The prize came with a trip to the film's debut at the Adelaide Film Festival where we were presented with an award and prize money to be used as funding for our next project. A lot of good PR came from winning the award, which really helped to open a few doors for us.

3DA: *Another of your animated shorts,* Lighthouse*, was written for the Responsibility Project. How did you come to be commissioned to produce the film for it?*

Ⓔ "A set of our favourites from the work we've done for Kraft in the US for use in its advertising campaigns"

Ⓕ "A poster from a series of five that we produced for a 2009 Allereze hay fever campaign"

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JN: In 2008 the US insurance giant Liberty Mutual invested its marketing budget into the creation of a film initiative called the Responsibility Project. It commissioned unbranded short films where each film was to have a theme of responsibility. We were approached by the creative agency Exopolis, which was recommended to us by a long-time industry colleague, so I suppose it was purely by word of mouth that we were considered.

The creative agency had the script and designs approved, and it needed a studio that could then create an animated film to its needs.

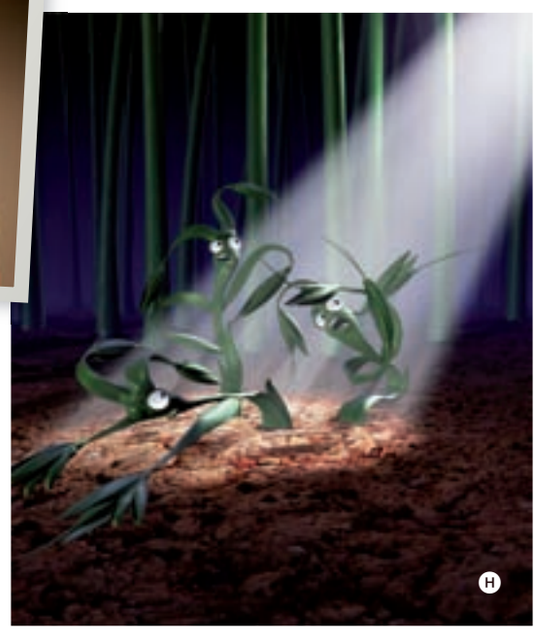
We worked closely with both of its directors to build the film and give it our own flavour. It was just a fantastic job to work on. Every step in the process was clearly defined, all the direction was concise, all the art was provided as and when we needed, and we were well insulated from the concerns of the client.

After our initial brief, we were basically left alone to craft a film alongside the creative agency, and I think it really allowed us to make it much better than we would have otherwise.

3DA: *What were the technical challenges behind making the short, bearing in mind that you produced it at full HD resolution?*

JN: The film was commissioned to be shown only online, but as the project progressed it became evident that we were trying to make a piece of art, so we decided to work it up to be natively HD resolution. It came with the obvious workload of added attention to detail, but I suppose it was our own way to show our skills to the world.

We produced the film using Blender, which allowed us tremendous flexibility in creating or customising tools we needed. The Blender community really shined, and we had so much great assistance during production that Blender has now become an integral part of our pipeline.



G "Produced as a life-size cutout for a Ryobi power tools road show"

H "One of a set of 15 images for a new agricultural product release"

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“*Lighthouse* came second out of 88 films in the Sydney Festival’s Get Animated contest”

3DA: *Are you taking the film on the festival circuit, and where will it be shown?*
JN: After its release the creative agency took a different direction, so it lost a lot of momentum getting the film onto the film festival circuit across Europe and the US. To my knowledge, it is still in the works but is unfortunately out of our hands. We did, however, submit it locally to several Australian festivals, and *Lighthouse* came second out of 88 films in the inaugural Sydney Festival Get Animated contest in November 2008.

3DA: *Switching to a different market, you’ve created a 3D animated TV series called* Jellibots*, which is aimed at kids. Tell us the story behind this.*
JN: *Jellibots* is an idea that Kim and I came up with many years ago. Originally, it was a much more intensive concept, but we decided last year to simplify it to try and entertain our own kids (aged five and three). The idea is that the little Jellie guys live in these robot suits and drive around their world, playing and discovering new things as little kids do in a playground.

3DA: *You were trying to market it at Annecy in June. Did it get commissioned?*
JN: We took it to market for the first time in Annecy 2009, and received a great response. It was rather unfortunate that the global financial crisis had peaked just as the market was held, but we did make a lot of great contacts and now we’re in negotiations with several parties for production financing.

Originally, we had planned for a series of 26 two-minute slots, but many buyers are asking for 52 five-minute versions, so purely by the nature of the series (with no spoken words and young themes) we are able to meet those criteria without too much further development work.

Getting funding before production is notoriously difficult to secure at the best of times, and added to the fact that RedCartel is new to the animated series production game, it makes it all a very slow process.

In the meantime, we’re building confidence with possible investors and proving to financiers that we do, in fact, deliver what we say we can. *Jellibots* is quite a simple series concept, and as such we already know that we can deliver it with relative ease.

3DA: *Okay, let’s talk about* Kajimba*. We’ve seen the animated, desert-set collection of sweary animals in progress. What was the concept here and what label is this coming out under?*

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JN: Again, it is another idea that we have been working on for many years. The idea is that Kajimba is an ancient waterhole where for thousands of years the animals of the Australian desert would gather to drink. They built a pub and drink they did! It's an expose of the rough edges of Australian culture using coarse stereotypes, giving rough personality to uniquely Australian animals.

I decided to approach the development organically, meaning we'd do animation tests and then test them on our production blog. Feedback from that release would then shape our next effort. The blog has now grown to over 200 unique daily visits, and the main *Kajimba* trailer has been viewed around 80,000 times on Vimeo. People just seem to be wanting more.

3DA: *Are you intending on finishing the entire series of 26 five-minute episodes and selling it, or are you planning on just finishing a few so that it can get commissioned first?*
JN: To date, we've done an awful lot of work on it. We have built most of the series' assets, developed a lot of animation tests, written a full series of treatments and have several finished scripts that are very cleverly done. Our releases to date have only been tests and we have begun production on episode one.

Kajimba production is currently self-funded so it fits around paid work as and when we can.

We took the idea to market alongside *Jellibots* and others, however, the main feedback from the larger broadcasters was that the references to drinking and coarse language weren't quite acceptable to their audiences, which was something that we already suspected.

Although I understand there is a certain conservative element to television, I do believe *Kajimba* has a unique appeal by addressing such issues with comedy and we're already seeking alternative avenues for finance (viral, web, branded content, game, adult, etc).

3DA: *Pity, I found it funny. Anyway, who worked on it and what software did you predominantly use for it?*
JN: The development of Kajimba was done entirely by three artists with assistance from several other part-time animators. The development of the look and feel of the series was driven by Matt Ebb, the lead lighting/shading artist here at RedCartel, and he has brought a fantastic warmth to the series that really adds to the appeal I wanted. The series' work has been done completely in Blender.

3DA: *Speaking of which, do you have any custom-designed or proprietary tools or is it all off-the-shelf stuff?*
JN: Blender is ripe for customisation, so we've designed literally hundreds of job-specific tools to handle needs we've met in production. We also use 3ds Max and V-Ray and we've done a tremendous amount of customisation and scripting work to assist production needs in that pipeline as well.

These days we have the two packages talking well to each other, and we've stabilised a lot of the toing and froing when bringing data from one to another.

Other tools we've developed include IronFist, which is our production management toolset, allowing a bird's-eye view of every step of our production, soon to be released. Additionally, Syncarella.com, which is a Synchronised Video Whiteboard, allowing up to four users to watch the same video across the web and make mark-up drawings over it in real-time, with each user seeing the markings of the other users. This tool allows us to work with clients all around the world, and makes the process of feedback as simple as possible when working with motion video. Syncarella is now released to the public and forms a large part of our development income.

Using Linux, we've also made a few solutions to handle job backups, reporting and time sheeting, which we're very proud of, but it doesn't really mean much to anyone outside of our studio.

3DA: *Looking to the future, what project would you love to get involved with?*
JN: RedCartel was established to build up our ideas in animated series and films, so we'd love to lock down a series or set of short films that stablise our pipeline. Currently, we're mostly servicing advertising clients, which are great fun but quick turnaround. Series work is where our hearts lie, so we're always pushing toward that goal at every step we take.

I "A folio piece demonstrating our new fur technique"

J "Artwork delivered in a set of 10 images for a large European steel manufacturer"

K "The view from our window in the afternoon"

L "One of a set of 15 images for a new agricultural product release

M "An image from a set of eight we delivered for the Australian summer of 2008/09 release of a new ice cream"

N "Box art we delivered for the release of the Crash Bandicoot *Crash Team Racing* series"

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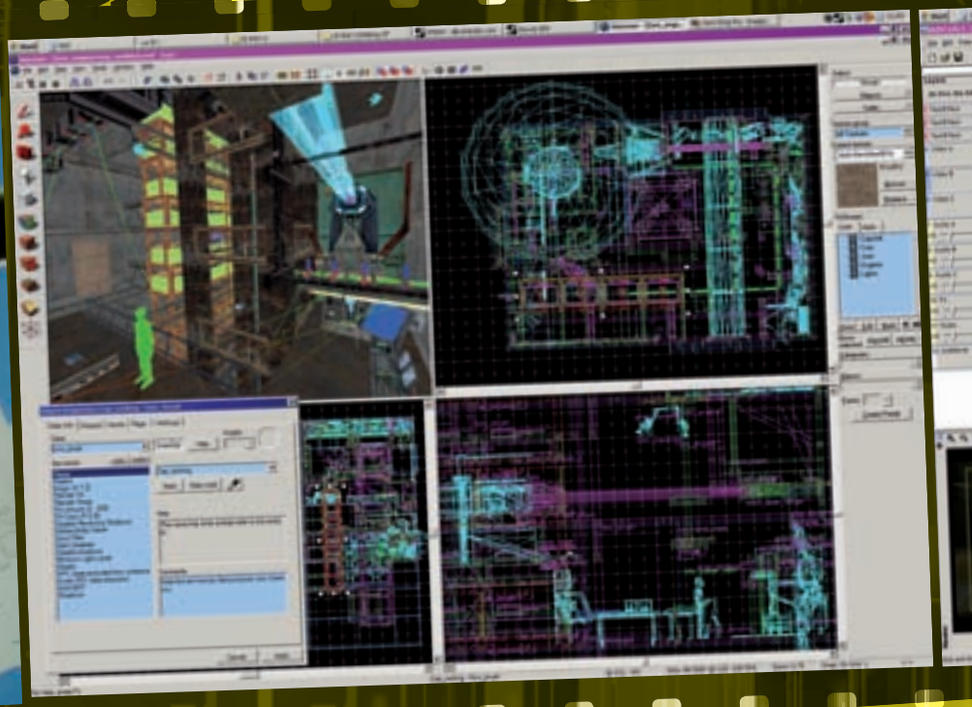
The world of hackers, gamers and 3D enthusiasts merge to create inspiring, beautiful, crude, irreverent and sometimes outright funny animations. Mark Bremmer reports

Machini



From the depths of the Quake universe

First the name: Machinima. Where did that come from? In computer terms, it happened aeons ago – 1996. The console game *Quake* was the first title that allowed the recording of gameplay for viewing at a later time. This new ability was rapidly seized and exploited by the gamers and quintessential computer geeks and hackers of the day, and a new genre of *Quake* movies was born. Soon, custom code was being written that allowed control of the recording camera. One of these early game hackers was Anthony Bailey, who began using a compound of the words machine and cinema in 1999. However, another evangelist of this capability, Hugh Hancock, liked the term and began using it on a newly launched site, Machinima.com. Oops. There was a typo that Hancock didn't even realise he'd made. Later, Hancock was contacted by the originator of the term, Bailey, who liked the change in spelling because it also was inclusive of anime. It's great when accidents work out well. It has been Machinima ever since.

These early efforts of creating personal movies from games share the naivety of the games they were created from. Blocky figures, crude architecture and stiff motion were the hallmarks of these movies that centred their stories around humorous mayhem, since that mayhem is what most games are about.

But a subtle shift was beginning to take place. Machinima authors were beginning to mature in their expectation. Making fun of game characters and your friends with these recordings was one thing. But new possibilities were dawning, asking questions such as "why can't I create a new story that has absolutely nothing to do with the game?"

Hancock, who had created a fertile community by starting Machinima.com, then sold it so that his business named Strange Company could fund an all-out production later to be titled *BloodSpell*. *BloodSpell* developed into an ongoing tale of adventure that was finally concluded after 14 episodes. Strange Company continued and developed additional titles as well. And the shift continued – some for serious endeavours and some for humorous endeavours.

Suddenly, independent film producers that had one foot in the real world and a hobby foot in the game world were seeing

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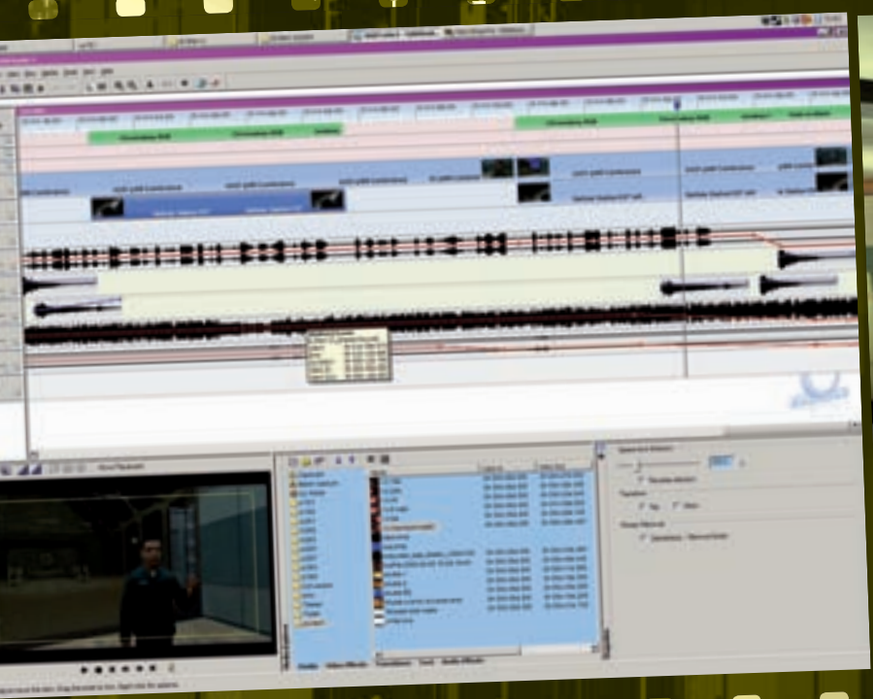
Machinima has nothing to do with state-of-the-art animation. Instead, the idea of being 'good enough' is paramount to its existence. Counterintuitively, the presentation of Machinima is then complemented by its outright awkward animation presentation. Machinima is all about telling your story using other people's CG models, texturing, rendering engines and pretty much anything else somebody was already paid to do.

In fact, that's part of the allure to Machinima. Anybody can do it with a very limited knowledge of 3D conventions and filmmaking. Just add a bare-bones video-editing program and the average Spielberg wannabe really has everything they need to get started.



low-cost storytelling potential. Indie film producers Burnie Burns and Matt Hullum from Rooster Teeth Productions harnessed their Xbox to create what has become a wildly successful parody of renowned Xbox title *Halo*. Rooster's 'Red vs. Blue' (http://roosterteeth.com/) has spawned a following of almost 78,000 *Halo* gamers by telling new stories in the *Halo* universe with a healthy dose of laughs thrown in. The most recent 'Red vs. Blue' offerings demonstrate cinematic camera moves and pacing, making them very watchable.

What's the appeal for authors? Control and storytelling. Clearly, not having to go on location for video and not having to use real people for the camera is a huge benefit from both a time and budget aspect. But an even more powerful reason is that viewers can suspend disbelief. Not looking at real people in real places automatically lets viewers disconnect from reality and begin paying more attention to the story, funny or not.

Originally, in retrospect the *Quake* movies were nothing more than an excuse to make a movie with your favourite *Quake* characters, shooting, running and killing things. But now there is sophisticated storytelling; in fact, stories presented in such a way that you actually want to know what happens next. A brilliant example of this is 'Clear Skies' (www.clearskiesthemovie.com), which is based upon *Half-Life 2* assets. It's a combination of engaging storytelling, camera moves, animation and editing.

> "Contemporary Machinima filmmaking is still mostly clustered around certain games like World of Warcraft, Half-Life 2, Halo and The Sims 2. But there is a small group of filmmakers who have no game affiliation and are using whatever tool works for a particular project"
>
> **Richard Grove** – Machinima filmmaker and operator of Machiniplex (www.machiniplex.net)

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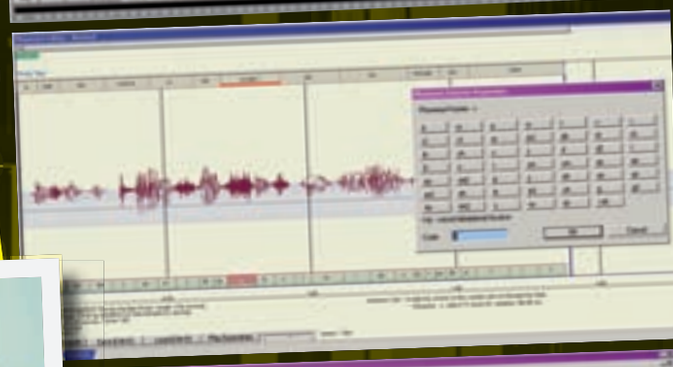
Inside the Machinima universe

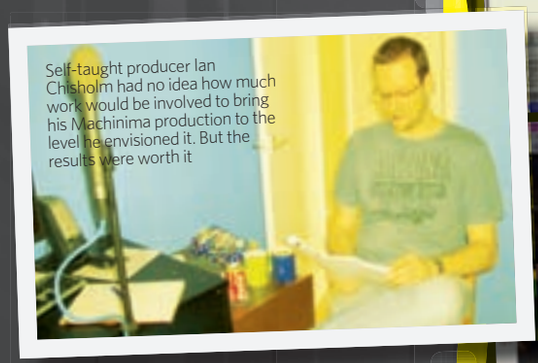
» *Clear sound*
Raw sound captured from the voice actors



» *Invested time*
The tedious process of lip-syncing was accomplished by using the Phenome Editor that is part of the *Half-Life* SDK. Sophisticated and complex, the SDK required almost a year of learning before it could start being used in production

Clear Skies (www.clearskiesthemovie.com)

Half-Life **meets massively multiplayer online game (MMORPG)** ***EVE***



Self-taught producer Ian Chisholm had no idea how much work would be involved to bring his Machinima production to the level he envisioned it. But the results were worth it

Creator of 'Clear Skies', Ian Chisholm is at the nexus of worldwide MMORPG *EVE Online* (**www.eveonline.com**) and *Half-Life* (**www.valvesoftware.com**). This juncture has spawned what is likely to be viewed as next-generation Machinima. Chisholm has crafted a viewing experience that has drawn people into a story loosely tied to the broader story of the *EVE Online* universe but using the characters and assets familiar to *Half-Life* players. In a recent posting on the website Massively.com, which is dedicated to MMORPGs, a user named Rational notes: "This video rocks. It's the most impressive first Machinima I've ever seen or even heard about. If this video were a television show, I would watch it every week." However, fan comments like that are directly related to the craft Chisholm and his team were willing to put forth.

Having a clear vision of the goal but not really sure how to get there, Chisholm intelligently established the boring yet essential foundation to make everything work well, as he comments: "Things need to be done properly. A script. Voice actors. Camera work. Figuring out how to use the Source SDK to achieve all this. Planning like I'd never done in my life before. It was a lot of unknowns and a lot of work, but the payoff could be that I could finally tell a story..."

Chisholm didn't dive right into production, either. Having a virtual stage to do your filming on is one thing, but learning how to use it is another. Unlike traditional 3D packages, Machinima creators are forced to use the tools that programmers use and that requires working with software development kits (SDK) if they want to create film sequences that are not gameplay imagery. After 12 months of preparation Chisholm hadn't recorded any segments yet, as he remarks: "Learning the SDK tools took up a lot of that as well; developer tools by developers for developers means an unclear user interface, bugs, broken features and not a lot of documentation."

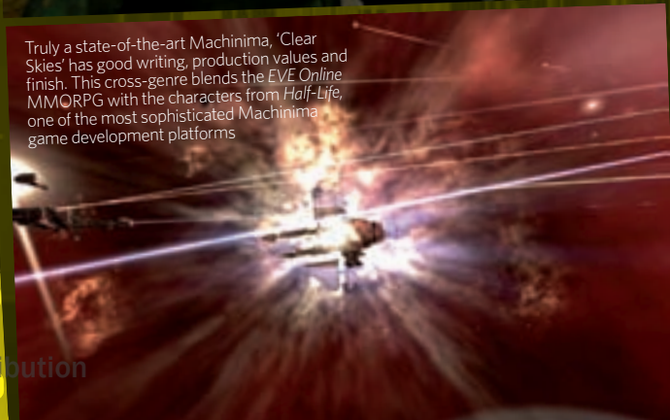
The project continued to grow. "I needed to work out file-naming conventions and folder structures for video clips, sound effects, maps, sets, voice-acting sentences, etc. All very dull but necessary when dealing with 150GB of video footage, a thousand sound clips and myriad texture files and other miscellaneous junk," recalls Chisholm.

With no formal cinema training, Chisholm took his cues from what he saw on *Battlestar Galactica*, *Stargate* and other similar shows. "Watching those taught me things like exposition, directing and informing the viewer, as well as use of camera angles and shots. A lot of it is subconscious – I just know when something is right or not," he says.

Upon completion, Chisholm tallied the time spent and came up with a sobering 1,500 hours for the final 40-minute production. Was it worth it? Would it be successful? "I had imagined something like 15 responses saying it was different, but that would be about it. So I figured if it got 2,500 downloads, then as much time was spent watching it as I spent making it and I'd be happy. That number felt like a bit of a stretch, but hey, I'd been setting my sights pretty high all the way through this, so why stop now? We cracked 2,500 downloads in under 48 hours."

Project 1

Building the cargo bay sets and controlling the camera moves required some frustrating hours, while Chisholm discovered that the SDK is written by developers for developers with undocumented features and its own collection of bugs



Truly a state-of-the-art Machinima, 'Clear Skies' has good writing, production values and finish. This cross-genre blends the *EVE Online* MMORPG with the characters from *Half-Life*, one of the most sophisticated Machinima game development platforms

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Only the Strong Survive (www.machiniplex.net)

A dark and stormy night re-enforced by the *Max Payne* render engine

Project 2

'Only the Strong Survive' is a more modest accomplishment than 'Clear Skies', but also a more typical one. An actor for both stage and screen, Richard Grove had left the theatre group he was working with and wanted something interesting to fill in the time. "Since I play a lot of videogames, I came across a film that was made in one of them and, although it was crude technically, I was intrigued." Grove continues: "This led me to Machinima.com (a very different site than the Vegas landmark it is today... sarcasm intended), where I found a community of oddballs like me who were all interested in learning how to make movies inside of game engines. I saw a post where someone was looking for acting and sound help for a film. They were in Los Angeles, so I set up a meeting with Jason Choi at a local diner. We liked each other and started work on what would become 'Only the Strong Survive'."

The defining aspects of most Machinima are the script and sound design. Simple needs that are sometimes difficult to fulfil, as Grove remembers: "I've got a good friend in the Valley here who had a professional studio, so he gave me very cheap rates for four hours and we worked hard and came up with a half-scripted, half-improvised voice recording that worked just fine. Production was a nightmare since Jason was a detail freak and this was my first big sound edit for animation, and we nearly came to blows. But our friendship survived and the film turned out well, mostly because of the wonderful original soundtrack that came on the day before we were due to submit the film for a Machinima festival."

» Only the Strong Survive
Built with the *Max Payne* game engine, this Machinima is a good fit for the render engine and game assets. While created by friends, sometimes the demands of the production process can significantly strain relationships

Male Restroom Etiquette (http://z-studios.com/films/mre)

Unspoken rules meet humour and *The Sims 2*

Project 3

Crude? Yes. Funny? Absolutely. Laugh-out-loud funny – at least if you're male. The preposterous supposition is that a breakdown in bathroom etiquette eventually leads to a collapsing society.

Not anticipating creating a YouTube blockbuster, producer and narrator Phil Rice did just that. YouTube has now logged over five million views of this Machinima film – and the film is shown on sites besides YouTube, too.

Rice uses a tongue-in-cheek script plus the elemental characters of *The Sims* to enhance the "public service" announcement feel of his effort. The primitive expressions and clunky motions of the characters push the total movie effect over the top.

Rice comments: "The film is rooted in the juvenile humour that most men retain a secret fondness for but don't get many opportunities to celebrate."

Originally starting in *Quake*, Rice became dissatisfied with the quality. After taking a break due to some professional responsibilities, in addition to doing the sound design for Hancock's *BloodSpell*, Rice returned to production and elected to use Electronic Arts' *The Sims 2*. Sound design was done with Steinberg Cubase SX3 and video footage from *The Sims* was composed in Sony Vegas 6. From start to finish, the whole process took two weeks.

» Male Restroom Etiquette
This Machinima by Phil Rice draws laughs with its understated, civil service style of presentation. Little did we know that how men treat each other in the public lavatory was so crucial to world peace

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Into the future

Moving forward, the development of Machinima seems to be headed in three distinct directions: those who want to monetise it, those who are 'purists' and artists who will create one as a film, and people who just want to have fun.

Make some money

Really, if you're going to go to through the time and effort of creating a Machinima film, why not cash in? While most producers didn't get into the whole Machinima effort for extra income, the success of some of these films is making it easy to do so.

» Hancock
Hugh Hancock is one of the original progenitors of the both the name Machinima and a continuing evangelist for the art form. After starting Strange Company and the original Machinima.com, he later sold the website to develop his own series called *BloodSpell*

Rooster Teeth, maker of the *Halo*-esque 'Red vs. Blue' is a perfect example of this. To be sure, the *Halo* fan base is huge, rabid and dedicated. 'Red vs. Blue' ('RVB') has become a "wink and a nod" towards the fan base, while delivering unexpected enjoyment from well-fragged characters. Humour is a funny thing because it is so different in every country – even if the countries speak the same language. Over 75 per cent of Rooster Teeth's audience is from the US, with Canada at seven per cent and the UK at four per cent. The primary visitor is between the ages of 18 and 24. While Rooster Teeth didn't start out with an online store, it has one now that sells hats and beanies, T-shirts, posters and, obviously, entire collections of the 'RVB' Machinima available on DVDs – the perfect products for its audience. The folks at Rooster Teeth won't discuss how much they make, but as far back as 1994 they disclosed that their server costs were $150,000 per year yet they were making a "respectable" profit. They've been commissioned by Microsoft and various bands to produce custom animations.

In a symbiotic relationship with Machinima are sites like Machinima.com. After Hancock's sale of the site to fund his Strange Company's *BloodSpell*, the new owners did what most owners of fan sites do and that is sell ads. There is nothing wrong with that and it helps keep the site, its resources and community viable by paying for the upkeep.

And this opens an awkward door. Software companies like Activision, Microsoft and others began paying attention to the success of some Machinima series – especially the ones that started making money. Unsure of what to do, some legal questions about ownership of content arose and, consequently, money generated from copyrighted content. These questions are still unresolved, although the companies involved have seemingly turned a blind eye towards the use of their assets, avoiding the appearance of being the bad guy to their customers (music and game code not included). The logic is that what's good for the customers is ultimately good for the company. And the customers apparently like Machinima. But when money is involved, who knows what the future holds.

The purist and artist

But here is where the Machinima community begins to segment.

Machinima.com used to be the only site to go to for Machinima creators and fans. Not any more. The folks interested in cash are building destination sites to attract the buying public. Alternatively, the artist community is building sites that eschew advertising and highlight the craft.

The world of Machinima – where to start?

The nonprofit Academy of Machinima Arts & Sciences is a good introduction (www.machinima.org). Free of ads, it covers the basic questions for anybody getting into Machinima as well as providing links to additional resources. For those interested in authoring with *The Sims,* Michelle Pettit-Mee has an excellent multipage tutorial (http://michellepettitmee.com/movietips/).

Don't have the game? Machinima can now be produced without a game. Reallusion (www.reallusion.com/iClone/) has a product called iClone specifically for generating Machinima.

In addition to sites already discussed, TMUnderGround.com is a good gallery/viewing resource for Machinima and indie filmmakers.

» Authoring
A beautiful and noncommercial site, Pettit-Mee has an excellent tutorial series for those wanting to create Machinima with *The Sims* characters

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» *WoW*
World of Warcraft has an easier toolset for making Machinima than most. However, the appearances of the characters and sets is stylised for fantasy

Help yourself

A list of websites offering technical help or tools to create your own films

A.M.A.S.: http://machinima.org/
Cool Clones: www.coolclones.com
Gamerz Theatre: www.gamerztheatre.com
MachinExpo: www.machinima-expo.com
MachiniFeed: www.machinifeed.com
Machinima Premiere: www.mprem.com
Machinima Roadshow: www.machinimaroadshow.com
Machinima.com: www.machinima.com
Machiniplex: www.machiniplex.net
Moviestorm: www.moviestorm.co.uk
Reallusion: www.reallusion.com
Sims99: www.sims99.com
TMUnderGround: www.tmunderground.com
ZenCub3d: www.zencub3d.com

> “Use the games animation in nonstandard ways. To make the Snow Witch bend over, a custom mod to trigger the browse store shelves animation from The Sims 2: Open for Business expansion pack was used”

Michelle Pettit-Mee ‘The Snow Witch’, http://michellepettitmee.com/

Machinplex.net is one such site that simply wants a venue to show the brightest and the best that Machinima has to offer. These sites are typically run by people that have a long-running history with Machinima and got into it just for the simple pleasure of doing it. Like typical indie filmmakers, Machinima artists are more concerned with the story impact of their work.

Some Machinima authors – like Michelle Pettit-Mee (http://michellepettitmee.com), who created the beautiful ‘The Snow Witch’ with *The Sims* – actually work in the game industry and produce their films for personal reasons that have nothing to do with commercial success. These Machinima films have a high level of craft and story and are simply a pleasure to watch.

Just want to have fun

This collection of people is by far the largest. They like to insult their friends via the game they play. They like to show massive killfests. They post to – and practically live on – YouTube.

The ubiquity of nonlinear editing software has enabled the creation of Machinima animations that run from terrible to very sophisticated, typically using only the gameplay features available on the game choice. Examples of this are readily apparent at Blizzard Entertainment’s *World of Warcraft* site (**www.warcraftmovies.com**).

For this group of authors and viewers, ‘good enough’ is just fine. For the most part, Machinima is just another fun thing to pass the time with, whether they are making it or watching it. But this is also the ground that cultivates the other two areas. People first get introduced to Machinima through casual referrals and links.

But this is where it comes full circle. Original Machinima evangelist Hancock was first introduced to what became Machinima as a student at the university. From there, he started the first website for the business and started his own company. But he still continues to evangelise, penning the recent *Machinima for Dummies* title that examines multiple games for generating Machinima as well as revealing options that don’t require games at all. Seeing productions that are now being produced, Machinima is just getting started.

Rooster Teeth has built a cottage industry out of Machinima. Arguably the most successful of all Machinima producers, it has found a way to blend the *Halo* fan base with wry humour into plots that respect the intelligence of the viewers

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A

> Our plans and ambitions remain to create a company that provides the highest achievable quality within the required time frame and budgets of our clients

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Duncan Evans talks to Neil Poppleton, director of 3dcom, about bringing AutoCAD experience to the architectural and construction markets

Under construction

3dcom.co.uk

Company 3dcom
Founded 1999
Company website www.3dcom.co.uk
Country UK
Software used AutoCAD, 3ds Max, V-Ray, Photoshop, Combustion, Premiere, After Effects
Expertise Architectural images and animations
Client list UK Coal, Carillion, Joseph Rowntree, Places for People, Strata Homes, Hochtief

> We concentrate on what we are good at, which is providing high-quality visuals and animations, and know when to bring in specialists for other services that are required

Neil Poppleton director of 3dcom

Starting as an architectural technician, producing working drawings and running projects on site gave director of 3dcom Neil Poppleton invaluable real-world experience and training opportunities before entering the world of 3D. It also gave him a complete understanding of how buildings are constructed, which is key to the production of 3D models. Poppleton has now been with 3dcom for nine years and in full control of the company for the past seven, leading it to its current position in the UK market. His responsibilities include developing client relationships, creating marketing strategies, studio programming, research and many other administration duties. Poppleton does, however, occasionally manage to get back to doing the fun part of the job, which is producing 3D work.

3D Artist: *What are the main services that 3dcom offers and the areas of CGI that your company covers?*

Neil Poppleton: The two services that we offer are 3D visualisation and animation for the whole architectural and construction market.

The team at 3dcom are architecturally trained with a passion for 3D. This combination creates an ideal architectural artist who is able to produce the right product to meet the demands of the marketplace.

3dcom outsources web and other specialist service requirements if needed by a particular client or project. We concentrate on what we are good at, providing high-quality visuals and animations, and bring in specialists for other services that are required.

Ⓐ Office development in the heart of Manchester for Robinson Architects

Ⓑ A major mixed-use development in Leeds city centre. The architect was Carey Jones

Ⓒ An office development next to Southampton Airport

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3DA: *Is there are particular style or ethos that you bring to your projects?*
NP: 3dcom's latest project, which is on the drawing board so to speak, has to be the best project we have produced to date. We need to learn continually from past projects and constantly push the boundaries of each new project within reason, as we are aware of the importance of keeping one eye firmly on client deadlines, which cannot be missed for any reason in our industry. Our team is encouraged to try new techniques and options, which are discussed and shared to help develop both the individual and the company as a whole.

3DA: *Who are, or have you been, some of your main clients?*
NP: We have various clients, from individual architects and developers to large, mainstream national house builders and architectural practices, which are all offered the same level and quality of service. We have had continued success with these clients, as they have returned to us on many occasions with repeat work. Working with such a varied client base of developers, house builders and architects makes my job very interesting, but also helps the team to understand new clients.

3DA: *Do you tend to work more in industry visualisation, commercial or residential, or is it an across-the-board approach?*
NP: 3dcom works within the architectural market and is able to work within all sectors, from commercial to residential. Our list of project types range from residential developments and education (particularly with the Government's Building Schools for the Future programme) through to health work, master planning and regeneration work, while we have even produced visuals for a morgue in Hull. Depending on the client's needs, during a scheme we would be involved in several stages, including creating conceptual images or animations through to planning support, public consultation and bid support, even all the way to marketing material production.

3DA: *What is the most interesting or rewarding residential project you've worked on?*
NP: Each new project is always the most interesting, as it presents a new challenge in how we can make it better and how we can improve both quality and also the workflow. Our reward is viewing the completed piece of work and receiving appreciation from the client.

This may not exactly sound original, but once our client is satisfied, it makes the hard work, render issues, modelling issues, design changes and a hundred and one other challenges all worth it at the end of the day.

> "Project types range from residential developments and education through to health work, master planning and regeneration work – even producing visuals for a morgue"

D A new build block within the Wolverton Park scheme, ten minutes from Milton Keynes. The client is Places for People

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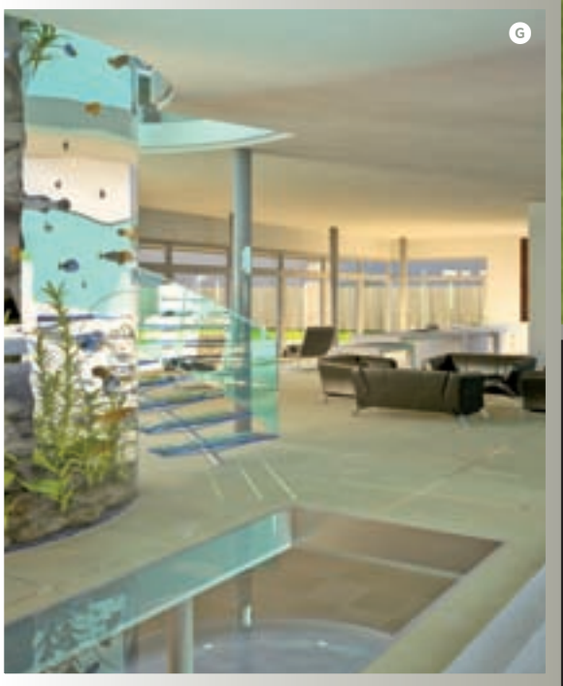

E Internal image from within the refurbished shed, part of the overall Wolverton Park scheme

F An external visualisation of Gleneagles

G An internal visualisation of Gleneagles

H A visualisation of a barn complex

Key Project

Gleneagles

This was a second individual residence worked on that had one boundary overlooking the famous Gleneagles golf course in Scotland. This property required a handful of visuals and external animation to enable the owner to appreciate what the architect had designed for him. The main feature within the house was a circular fish tank that went three storeys in height with the staircase wrapped around the perimeter. We were told the only way to clean the tank would be to get a diver into the tank from an access area upon the roof. This project is currently on site and due for completion in 2010.

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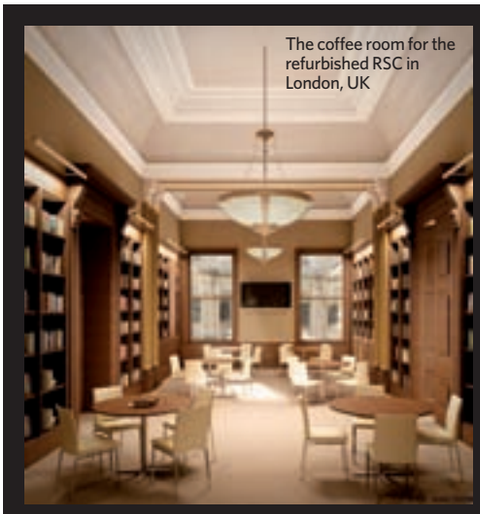

The coffee room for the refurbished RSC in London, UK

Key Project

Royal Society of Chemistry

3dcom was commissioned to produce various internal images as part of the £1.4 million Chemistry Centre refurbishment project at the Royal Society of Chemistry, Burlington House, London. The scheme by Julian Harrap Architects will see the existing Banks & Barry library and librarians' office refurbished with a new linking bridge to resolve the circulation at high level, a rationalising of the Sixties renovation with the mezzanine being filled in as well as a new modern gallery and members' room. The project is due for completion in September 2009.

3DA: *You have completed a proposal for an office development adjacent to Southampton Airport where the environment was produced from just one photograph. Can you provide more details on how you did this and what exactly the project entailed?*
NP: The office adjacent to Southampton Airport commissioned two visuals: one day shot and one evening shot, both using the same photograph that was a day shot and was supplied by the architects. The first step for 3dcom in this production process was to build the 3D model from drawings supplied from the architects. Once this was complete, we could then create a camera and align accurately with the photograph. Once aligned, we then applied materials and lighting to suit the photograph for the day shot. To create the night shot, we had to manipulate the day shot within Photoshop to produce a night back plate for use with a night 3D model with all-new lighting rigs.

3DA: *Something a little more exotic was a job for a private client that entailed rendering a development of four villas in Goa, India. How did that come about and what was involved?*
NP: The villas in Goa project was a more personal project for one of 3dcom's artists, whose friend was the developer of the properties. He also had involvement with the design and got the chance to visit the development site midway through the construction, which is unusual for our team.

3DA: *What software tools do you regularly employ and why?*
NP: Software used for our production process starts with AutoCAD, which is used for its accuracy to detail and modelling of buildings, linking fluidly with 3ds Max. This process has been developed to allow work to flow smoothly between stages and to keep future amendment time minimal due to the linking process and ease of use of our

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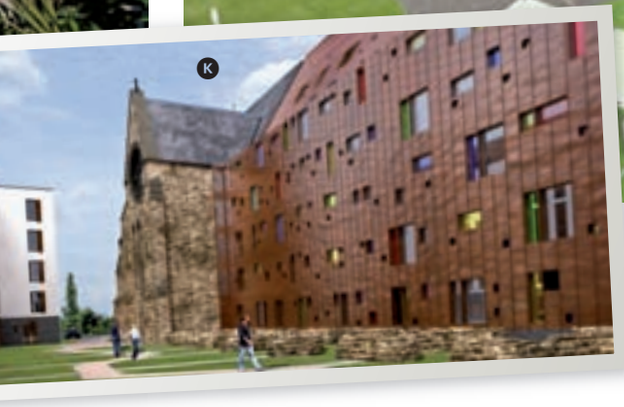

K

AutoCAD workflow. Within 3ds Max, we use V-Ray as the main render engine. We experimented with Brazil, mental ray and Radiosity within 3ds Max, but concluded that V-Ray was the right render engine for 3dcom.

3DA: *How many people typically work on a project, either in-house or externally?*
NP: As often as possible we have one 3D artist working on one project, which cannot work for larger schemes but is something we try to encourage. For one artist to take the scheme from conception to completion provides great job satisfaction and ownership of the visual or animation.

3DA: *Can you give us some idea of the actual production pipeline for producing an image or set of images for a client?*
NP: Once initial discussions have concluded with our client and their brief is fully appreciated by our team, we commence the modelling of the proposal. We aim to issue work-in-progress images or animations to the client at set stages throughout the production pipeline. This has two effects: first, that the client has a continual hand in the process of the final piece of work, and second of all, it prevents time wasted going back to earlier stages of our production pipeline due to the client's changes and comments received at the end of a project, which would be too late.

> “For one artist to take the scheme from conception to completion provides great job satisfaction and ownership of the visual or animation”

3DA: *The building and visualisation industries have both been detrimentally affected by the recession. How have you found market conditions and what are you doing to counter this turndown?*
NP: As we specialise within the architectural and construction market, we have felt the same downturn as everybody else in work as you would expect. Being a company coming up to ten years in existence has helped during this current period, as we have a large and loyal client base with many of our clients coming back for repeat work. We have also marketed well and picked up a few new clients, but our health and education clients have provided a good stream of work in these difficult times where residential work dried up, which encouragingly now seems to be slowly coming back.

3DA: *What are your plans and ambitions for the company in the future?*
NP: Our plans and ambitions remain as before, which is to create a company that provides the highest achievable quality within the required time frame and budgets of our clients.

I Commissions come from different directions, with this project involving rendering villas in Goa coming from a friend of one of 3dcom's artists

J A new school animation and image package to support the client's successful bid for the Tameside schools contract

K Mount St Mary's church is a Grade II listed building. 3dcom assisted with achieving planning permission for this innovative new residential development, which preserves the important parts of the existing structure

L The office, the hub, the command centre – where the magic happens

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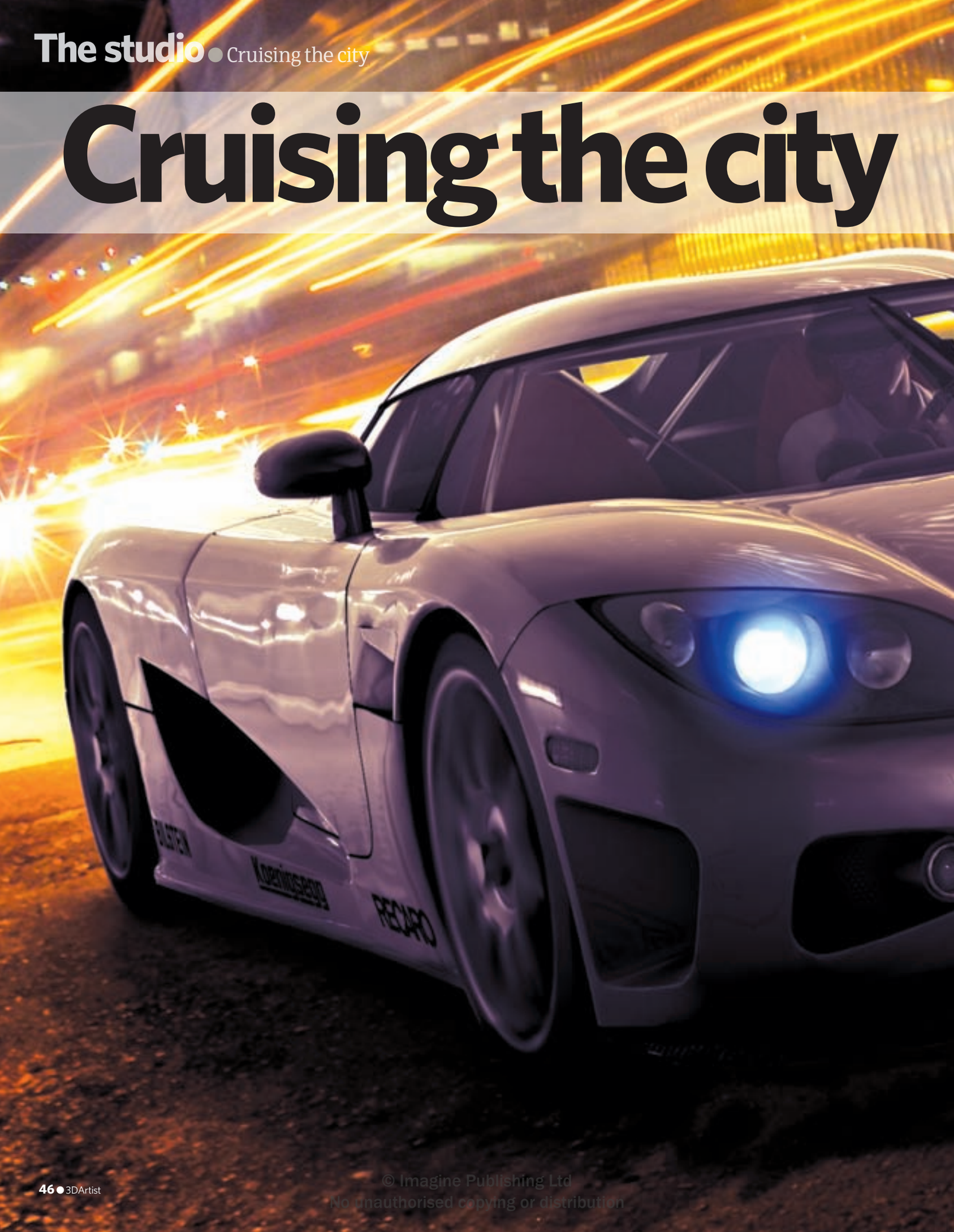
Cruising the city



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Koenigsegg CCX 2009

"I wanted to create an image of a rare car in a completely unseen way using the elements of design I've been covering in college"

Scott Gibson works in freelance 3D car concept, design and integration

Software used in this piece

3ds Max | V-Ray | Photoshop

Materials, Texturing, Rendering

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behind the scenes

3D artists explain the techniques behind their amazing artwork

Artist info

Scott Gibson

Personal portfolio site http://nitros-detox.deviantart.com/

Country USA

Software used 3ds Max, V-Ray and Photoshop

Expertise Scott specialises in automobile concept and design with a large focus on rendering, lighting, compositing and colour management

Making this image was a personal challenge for me because I wanted to incorporate everything I have learnt about design, light, colour theory, compositing and lines. It was a way for me to push myself to the next level in my career and review everything I have done so far.

Through the course of this tutorial, I will be focusing on the use of V-Ray inside 3ds Max for both the materials and rendering as well as the image-based lighting, which ultimately is one of the keys that allowed me to tie this image together. I won't be spending much time on the actual modelling of the car, instead I'll more or less jump right into the materials and rendering process and get you on your way to composing your own images. To follow along, you're going to need 3ds Max 2009, V-Ray 1.5 and Photoshop CS4.

01 The blueprints

The first step to modelling a car is to get its blueprints A. There are several online resources that carry such things and most of them are free after a quick registration. Once you have the blueprints, you'll have to slice them into the separate views (top, side, front and back). This can be done in Photoshop or any image editor of your choice. Then you just have to lay them out as a bitmap material on a plane in their respective viewports.

02 Basic modelling

There are a couple of different ways in which you can model a car but I prefer box or polygon modelling. To begin, create a box in the side viewport with five length segments. Each of these segments is for a different section of the car: one for the hood, the roof and doors, the trunk and so on. From there, begin to slice polygons and move vertices until you're happy with the model B.

03 The car paint material

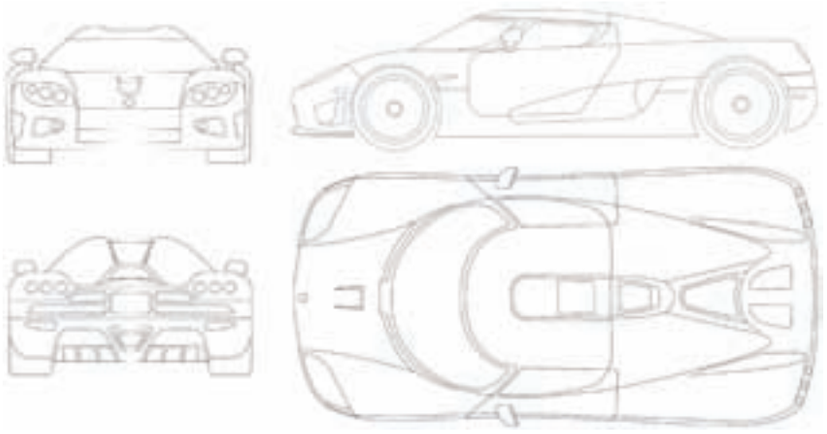
I used a shellac containing two VRayMtls, the base paint colour C and the clear coat. In the Material Editor, the Diffuse and Refract were set to black with a Falloff map in the Reflect slot. In the Falloff map, colour one was set to a dark neutral grey and colour two was set to pure white and the map was set to a Fresnel type. In the RGlossiness slot was another Falloff, but this one was set to perpendicular/parallel. Colour one was neutral grey and colour two was a dark grey.

04 The carbon front splitter

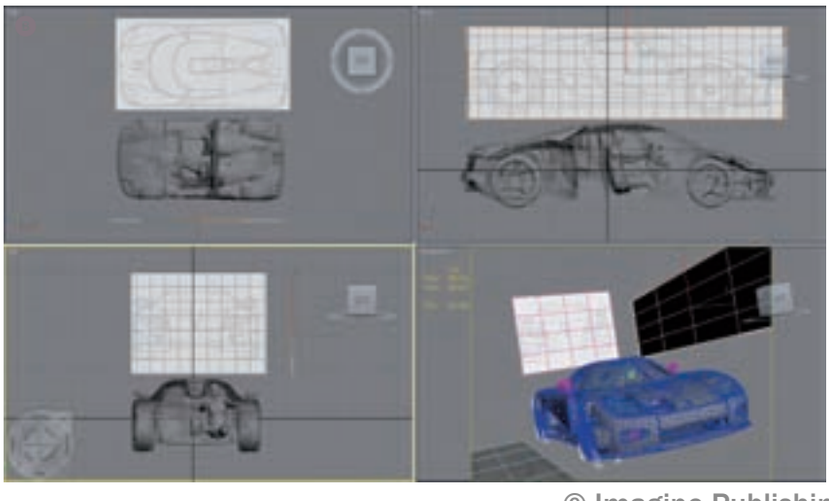
The carbon fibre material was a VRayBlendMtl very similar to the paint material, one base material and one clear coat D. The base was a semigloss VRayMtl with a carbon texture bitmap in the Diffuse slot. Those textures can either be created in Photoshop, found online on a number of resource sites or captured through a digital camera.

05 Create the windscreen glass

The windscreen glass is a simple material compared to the paint and carbon. But when you have things behind it for the glass to refract, your render times increase exponentially. I began with a VRayMtl and set the Diffuse and exit colour to a blue green and set the Refract to a very light grey. The Reflect was then set to a dark grey and the Index Of Refraction (or IOR) was set to 1.01 E.



A This is the 2006 Koenigsegg CCX blueprint used to make the model



B Using the blueprints allows you to create a more accurate model

C Finished car paint lit via HDRI to test the reflections

D Carbon fibre material render, reflection and scaling test using the same HDRI as the paint

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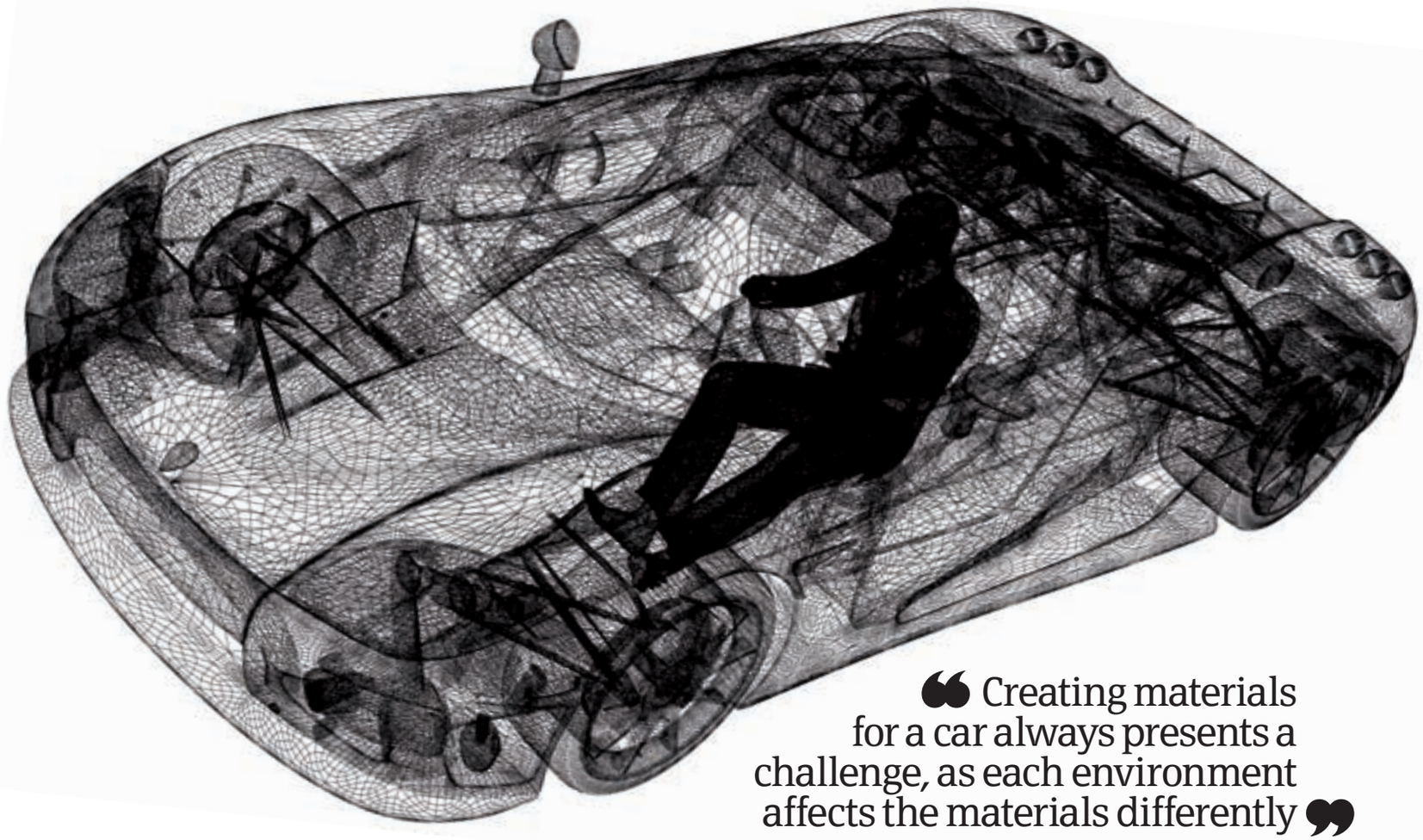
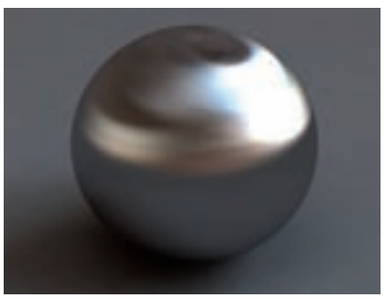


> Creating materials for a car always presents a challenge, as each environment affects the materials differently



06 Aluminium and reflective parts

Another fairly major material was the aluminium used for the rims and the reflective bit around the lights. Again this material was fairly basic; both Diffuse and Refract were set to black and Reflect was set to light grey with an Index Of Refraction of 1.44. The Anisotropy was set to 0.7 with a Rotation of 0.5.

07 Turn on the headlights

Since this was going to be a composite image, I decided not to use lights for the headlamps. Instead, I used the self-illuminating VRayLightMtl. This gave me more of an area effect and a mark that I could use in Photoshop to create the large headlight glow effect F.

E Reflect and Refract test render of the windscreen glass

F Testing the headlight intensity and area effect in a dark room

Texture time

Creating materials for a car always presents a challenge, as each environment affects the materials differently and so the materials have to be tweaked, changed and adjusted to achieve the right look for every render.

First, you're going to need a basic understanding of V-Ray and the VRayHDRIs, VRayLightMtls and VRayDirt maps. Second is a collection of HDRIs for the image-based lighting, and you're also going to need Photoshop or something similar to create masks and decals for your car.

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> When you're making a composite, it is of the utmost importance that the lights within the backdrop image are re-created on the model

08 The front and side grills

Instead of modelling the grill for the front and side vents, I opted for a masking approach. First I had to create a cross-hatching pattern in Photoshop that I could seamlessly scale and repeat. If you don't want to try to make your own or can't create one you're happy with, there are a number of sites that have textures that you can download and use for things like this. I then applied that bitmap to a semigloss black VRayMtl in both the Opacity and Displace slots G.

09 The suede interior

This was definitely the most complex part of the materials. For the suede on the dash and side panels, I started with a VRayMtl and added a Mix map to the Diffuse slot. Inside that mix, I changed the Mix amount to 80.0 and added a Noise map to slot one and changed the size to 0.401. Back in the Mix map, I added a Falloff map to slot two and changed it to a Fresnel type. Back in the VRayMtl, I added a Falloff to the Reflect slot. Inside this Falloff, colour one was black and colour two was neutral grey. Last of all, back in the VRayMtl I added a Noise map to the Displace slot. I made this Noise map a Fractal type and changed the Size to 0.50 H.

G Here, you can see the opacity mask in effect and the displacement of the grill

10 Another glass material

The last material I made was for the small fog lights on either side of the mouth of the front bumper. This time the Refract was set to pure white and I added a Fresnel falloff to the Reflect slot. I also changed the IOR to 1.517 I.

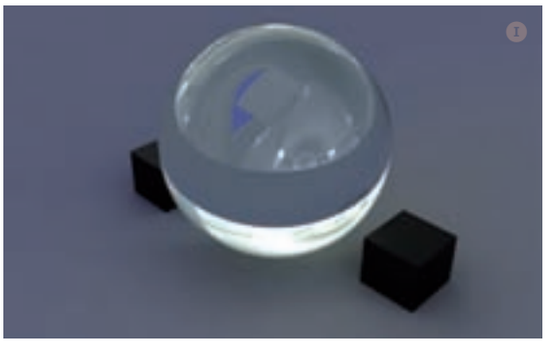
H

11 Re-create the base images light

The first step is to re-create the lighting in the backdrop. If there are a lot of focused lights like in the Koenigsegg image, then it's best to use V-Ray lights. You can use Spot and/or Direct lights for things like streetlights, headlights and generally diffuse lights. In this particular case I used 12 different V-Ray lights to re-create the bright light on the right side of the car.

12 Continue with the lights

The second part to this step is to match up the angles, intensities and colour. If it helps, you can load the bitmap into the viewport as a background through the Cmd/Ctrl+B command. This won't be included in the render, it's simply a replacement for the grid. The thing to remember at this point is that the reflections made be high intensity. V-Ray lights don't like to anti-alias very well, and you can always go back in postprocessing and enhance them. So don't worry if you have to turn the lights down, it's normal J.



I

I This glass material as full distortion and reflection

J Loading the backdrop as a viewport background is a great way to place the lights correctly

13 Create the environment

Next is the image-based lighting also known as a high dynamic range image or HDRI. Since most of the reflections you see on a car are of things behind the camera, we have to create an environment back there for the car to reflect. This is done through the use of a HDRI in conjunction with V-Ray's Environment Override. So the first thing is to find a HDRI that accurately represents the world behind and around the camera. Now in most cases the colours won't match up but that can be fixed up in postproduction K.

Lighting and rendering

To light the Koenigsegg, I combined two different techniques: image-based lighting and V-Ray lights. Other tutorials may tell you to turn off the lights if you're using image-based lighting, but when you're making a composite it is of the utmost importance that the lights within the backdrop image are re-created on the model. And unless you happen to have a matching HDRI for your backdrop, it is impossible to use just one or the other. Therefore we will be combining the two techniques to create our render, which will allow us to merge the two into one seamless image.

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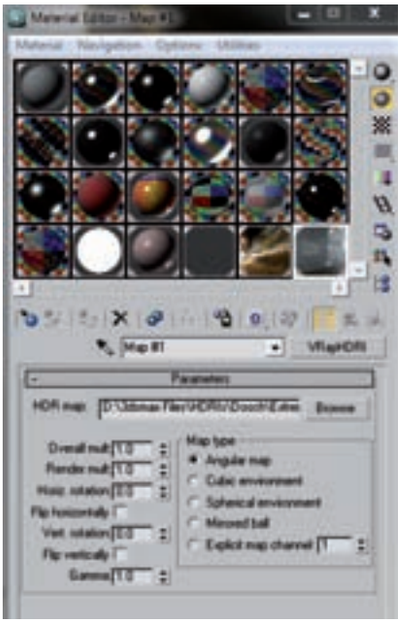

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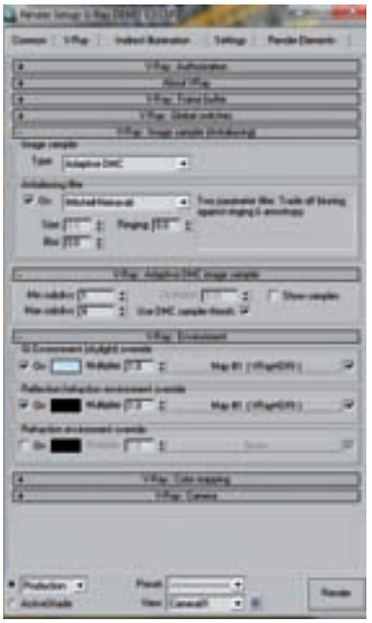

L

14 Use the HDRI

Once an HDRI has been selected, we have to incorporate it into the model. To do this, first create a VRayHDRI map in the Material Editor and load your HDRI. This is then applied to the V-Ray Environment Override controls for both Global Illumination and Reflection/Refraction. This will create a world around our model that won't be rendered. That is what differentiates it from 3ds Max's Environment Controls L.

K I ended up using an HDRI from the extreme high-resolution collection from Dosch

L The Environment controls are found under the Global switches and Image filter

15 Form the bases of the final image

Once all of the rendering is done, you should end up with three different images: the car, the Ambient Occlusion pass and the backdrop M. This is where the fun part begins, as we get to form one image out of the two we got from 3ds Max and the backdrop. The first thing to do is to create a new canvas in Photoshop and load all the images onto it. Just put the car on top of the backdrop and the Ambient Occlusion on top of the car.

16 Begin the merging process

One of the first things you should notice is that the world seen through the windows is not the backdrop. It is, in fact, the HDRI we had chosen. So before we go any further, we have to cut those windows out and re-create them with our backdrop. I have found that using a mask on the car layer is the easiest way to cut the windows. Simply paint in black on the mask where we need to change the windows N. Once those have been cut out, you should be able to see through to the backdrop layer beneath so all we have to do is create a new layer and paint in the new windows with the colour we used in Max Color (56,135, 115).

M Make sure when your car is rendered and saved that you save it with an alpha channel

N Showing the proper world in the windows makes a big difference, but we're not quite there yet

17 Give a hand to the lighting

Another thing that needs a little help is the base light we got from 3ds Max. If you have a good match up, then this step ought to be just a few simple enhancements. I went through and added some more light to the driver and the right-hand side of the car. I also added darker shadows to the ground and driver to help build up the strong contrast O. At this point you can also turn on the headlamps and work in their diffuse glow.

18 Color Balance and gradient mapping

At this point the light is done, the placement is done and the shadows are present P. There's only one thing left to ensure our car belongs in the city. All we have to do now is add a couple of adjustment layers. First is a Gradient map to ensure the colours match across the entire image, then we adjust the Color Balance to get those nice yellows and reds. Last of all is a Brightness/Contrast layer to bump the contrast up just a bit. And there we go, the final image.

O Enhancing the light is a big step in the right direction and just leaves one last step

P Adjusting the colours is one of the biggest secrets involved with this business

17 hours render time
Resolution: 3,648 x 1,828

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Step by step

Easy-to-follow guides take you from concept to the final render

Artist info

Adi Irawanto

3DArtistonline

Username: idonk

Personal portfolio site
http://idonk.deviantart.com/

Country Indonesia

Software used Maya, ZBrush and Photoshop

Expertise Adi specialises in portraying beauty within a dark theme, describing it as "the coming together of two different worlds"

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Modelling, Texturing, Rendering

Step by step: Create soft fabrics

Soldier Girl 2009

"I believe that there's a masculine power in each and every woman, and a female soldier is a good example of it. I decided to create a female soldier at the end of the war. I am fascinated by the hard work that they achieve, so it's an extraordinary feeling to get the harmony between beauty and chaos in the scene"

Adi Irawanto is a freelance 3D technical artist

Software used in this piece

Photoshop Maya ZBrush

This tutorial will go through the process of creating *Soldier Girl*, covering my workflow process and the stages of modelling, texturing and rendering. The background story revolves around the end of the war when the army is retreating back to base camp, and one of the female soldiers – a radio contact commander – calls her higher-ranking officer. In this project, the aim was to show a portrait where the war is over in a desert somewhere in the Middle East. A big challenge for this scene was to implement a realistic desert atmosphere.

The modelling process took place in Maya, while mental ray was used for rendering, ZBrush for details and also Photoshop for final touches to the image. I worked for more than two months in my leisure time, as the complexity of the elements in the scene took a lot of time to do.

Concepts

Design the scene

01 In order to realise this idea, the first thing to do is find a suitable desert environment. I started by creating a simple plane and then tweaking the surfaces. I found a complex shader for the desert and displacement nodes for detailing the sand by using Maya's Physical Sun and Sky nodes with rendering in mental ray. After some experimentation, the afternoon scene won over the others.

02 Once the desert atmosphere was visualised, I wanted to consider the elements within the scene. After collecting a lot of character reference from Google, including female soldiers from the Israeli military and M16 Extended weapons, I settled on a Beretta pistol, while I chose a classic look for the camouflage uniform.

03 Next, I made a rough sketch by combining reference images and painting the character to get a good idea of the design, as well as how I would change the atmosphere in the scene within Photoshop. I added some unique accessories that the soldier girl could carry with her, such as a holster and a bag for her radio. I then had a base concept ready to start modelling from.

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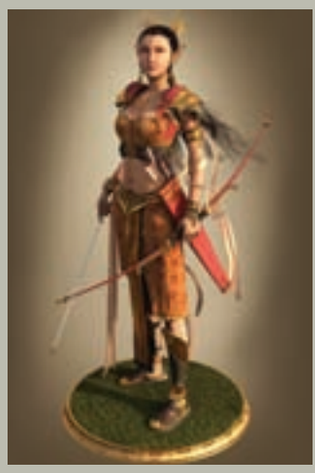
Artist Showcase

Adi Irawanto

Basically, I am a technical artist and recently jumped into life as a modeller in order to explore my artistic sensibilities. Currently, I work as a freelancer on television advertisements and 3D illustration projects.

Gundam
Maya (2009)
This model was created when I was working as a freelancer, outsourcing for the games company bigMan 3D (London)



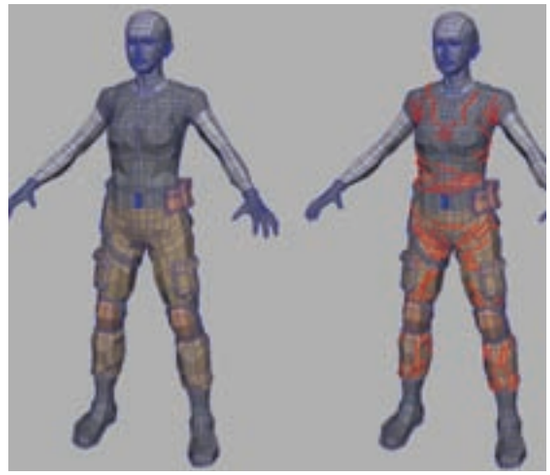
Kirana
Maya, 3ds Max, Photoshop (2008)
This image was made as a personal project, an illustration of Kirana at the front line of the border. I was inspired by the story of *The Lord of the Rings*

Face In The Dark
Photoshop (2009)
This is an example of my speed painting style. I'm not a 2D artist – I consider myself as a 3D technical artist now, but sometimes I have a fun time with painting

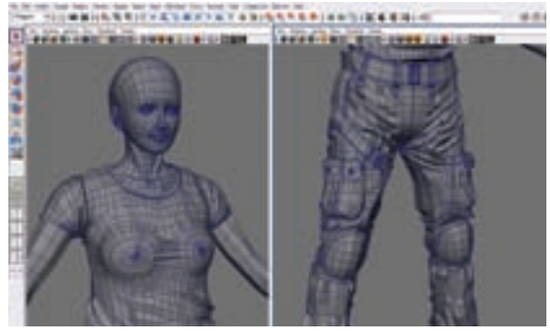
Modelling

How the girl was created

04 I started box modelling the character with a low-poly base in order to get a good idea of the proportions. I didn't use an image plane to guide my proportions, but I did set the perspective camera lens to a true view. This is important when modelling. Next up is to look at the clothing, focusing on where there will be wrinkles to avoid displacement, which leads to heavier rendering. Using a screen grab as a reference, I sketched wrinkle topology onto the low-poly model, which helps to map wrinkle edge loops.

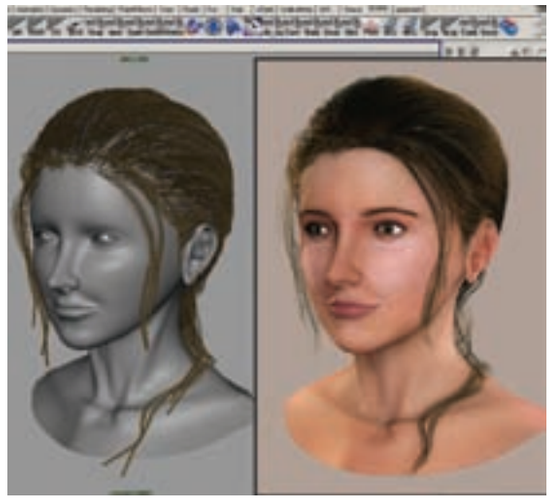


05 Now we move on to adding detail to the wrinkle edge loops using the Split Polygon tool, removing any faulty edge loops. A few of the accessories need additional parts adding in order to keep in line with the overall proportion. Sometimes, I use a lattice to deform the mesh if I need to tweak the proportions, as it's easier to handle the complex vertices.



06 Next up is the modelling of the weapon. Starting with an image reference for the image plane helps to balance proportion. I minimised the use of smooth nodes by using them just for three parts, which kept the poly count down without decreasing detail. I then added detail to the holster and the magazine pockets. Next, the UV layout was done using the Roadkill standalone tool.

07 I created the character's hair using Maya's standard hair system. I pulled splines off of a NURBS surface and used the history on the surface to control the shape of the hair. I create my hair this way because I have found it to be the best way to style and have the most control over the hair. First, I created a curve to define the area of the hair. Next, I created a sphere and added hair; this is a dummy object that will be deleted later. I used this to transfer the hair system to the curves. The face skin uses a simple SSS skin shader, with the texture created from a photo.



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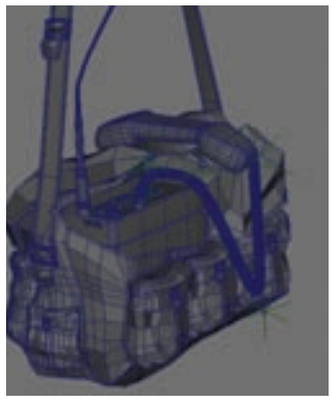
Fabrics and accessories

Model the extras

08 **I designed the** radio bag similar to a school bag or satchel, adding the pocket and combining them both to form one polygonal object. I created the phone cord with NURBS, using a direct curve to extrude the line. The cord was put in the rough position where I wanted it, and then used lattice divisions of 2, 5, 2 to deform the direct curve. Each lattice point was attached to a cluster, which were tweaked to pose it accordingly.



09 **For the character's** pose, I used rigging and FBIK with two scripts: TIMV_BipedFactory.mel and FBIK_CharacterControl.mel. The former, by Tim Völcker, is a biped template that the model's bones are matched to, while the latter by Takayuki Kondo controls FBIK by UI. These scripts are included on the disc. I then finalised the girl's pose of her making a phone call with all of the elements in place. I deleted all of the history nodes to lock the polygon in place, then tweaked some areas that needed it.

Textures and lighting

When all of the objects were merged in one scene at render time, I had a problem with the character's SSS skin shader. It was too bright in comparison with the environment's lighting (Physical Sun and Sky).

To solve this problem, I separated the SSS skin shader's lighting from the environment lighting. All objects except those with the SSS skin shader used Maya's Physical Sun and Sky nodes, but for those with the SSS skin shader, I used standard Area lights.

10–15 hours render time Resolution: 2,500 x 1,723

10 **Some areas in** the composition required more detailing, such as wrinkles in the clothes and radio bag. I found that Normal maps are a great method for helping with details. I separated four group UVs for the character, her accessories and the weapon, and then exported the entire model as an OBJ file and imported it into ZBrush. It is important to always check the UV layout in ZBrush before starting sculpting. I then started sculpting to produce the Normal and Cavity maps. When this process was finished, I exported the low-poly model (with zero subdivision) and imported it back into Maya.

11 **I chose a** classic military style for the fabric's texture, using photos as reference. I retouched and blended using Cavity maps; for the Diffuse map, I used a lambert shader; on the Bump map, I created a patterned form net at the fabric. For the Specular map, I used the same texture as the Bump map, but modified it a bit and added the grunge texture to help make it look like realistic fabric.

12 **The Abraham tank** was modelled as a low-poly object without detailed textures. mental ray's mia_material_x was used here, with a dark colour selected under Diffuse, while the attributes for Reflectivity and Glossiness were changed under Reflection. I had already tweaked the landscape a little, adding new objects like boxes, buildings, grass and small stones. The Paint Scripts tool was used to scatter the stones across the surface.

13 **Next, I needed** to add the character into the scene while keeping everything in proportion. I created a simple render layer with the following passes: Beauty, Skin, Hair, Weapon, Trousers, Boot, Bag, T-Shirt, Desert and Ambient Occlusion for all objects. I then collected all of the elements together and processed them as one whole image. For the AO passes, change them to the top layer, set a Multiply blending mode and change the Opacity. An extra image is needed to fill the empty background, like clouds in the sky, while I made it more dramatic by adding some dust and smoke with the Paint brush. Finally, I adjusted the colour for each element to balance the scene.

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I made this...

Incredible 3D artists take us behind their artwork

Artist info

Olga Banina

Stas Girdo

Denis Kireev

3DArtistonline
Username: 3DRivers

Personal portfolio site
www.3drivers.com

Country Switzerland/Russia

Software used 3ds Max, CINEMA 4D, Photoshop and V-Ray

"The main lighting is done with VRaySun. The caustics in the water are actually fake – we used Direct Light to get this effect. Then we took the final shot with VRayPhysicalCamera"

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Evolution
2009

This scene (along with several others of the same kind) was made for an educational project that was never commissioned in the end. But we enjoyed working on it, so we're glad it happened anyway. It shows the four stages of evolution of fish into the first land dinosaur, based on scientific references. There were three people from Geneva and Moscow working on it, as we were very short on time. It was rendered in V-Ray, while Photoshop was used for textures only.

Software used in this piece

3ds Max | CINEMA 4D | Photoshop | V-Ray

"The whole scene was done in 3ds Max and rendered in V-Ray. We didn't do any postproduction on this render – Photoshop was only used for the textures – so it's 100 per cent 3D"

We used CINEMA 4D for the fish and 3ds Max for all the surroundings (trees, landscape, etc). The actual creatures were created by Denis Kireev in CINEMA 4D. All the surroundings and water were done by Stas Girdo in 3ds Max. Olga Banina was in charge of the references, scriptwriting and organisation of the work process

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Create a woodland waterway

Woodland Waterway 2009

> My aim was to create a photorealistic landscape render using Global Radiosity lighting

Dominic Davison is a freelance artist and picture editor

This tutorial will guide you through how I composed and rendered this scene. I get most of my inspiration from landscape oil paintings and photography. This scene was inspired by the likes of Monet and KoekKoek, as well as contemporary 3D artists such as Howie Farkes.

I did experiment quite a bit with various atmospheres, and found that using Global Radiosity with very little sunlight actually makes a scene look more photographic. There was very little postproduction work involved. The only changes that were made were adjusting the Color Balance levels in Photoshop and a little sharpening.

The final render was 4,000 x 2,667, which meant that I couldn't render the whole scene in one go in Vue, as there just wasn't enough memory. I had to render in strips or sections at a time, which were saved individually as JPEGs, and then were stitched together in Photoshop.

Step by step

Easy-to-follow guides take you from concept to the final render

Artist info

Dominic Davison

3DArtistonline

Username: Dom1

Personal portfolio site http://digital-dom.deviantart.com/

Country UK

Software used Vue 6 Esprit and Photoshop

Expertise Dom specialises in digital landscape creation, three-dimensional composition and rendering

Software used in this piece

Vue 6 Esprit | Photoshop

Composition, Lighting, Rendering

> This scene was inspired by the likes of Monet and KoekKoek as well as contemporary 3D artists such as Howie Farkes

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Scene setup

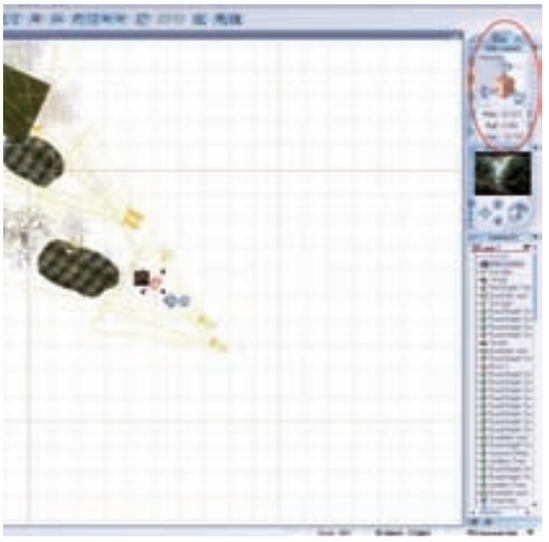
Collecting references and models

01 The first step was to get ideas for possible scenes. I get ideas from great photography or landscape fine art. So websites such as **www.flickr.com** or **www.wga.hu** provide plenty of ideas. It's important to get references, as you need to understand how nature works in relation to proportion and size of objects, and how they react to light, etc.

02 For this scene, I picked out some good references that would make a photogenic scene. Each comes from a different type of art. We have Monet's impressionist painting of *Bridge over a Pond of Water Lillies*, a 3D render created by Howie Farkes and a fine art painting by Charles White. Each one of these provides a good source of visual information.

03 The next step was to collect the models, terrains and materials for the scene. Most of the objects were already found in Vue. I used three objects from **www.cornucopia3d.com**. These include the Leafless Tree, the Flower Ecosystem, the Wrought Iron Bridge and a free model that was used as the main tree on the left of the scene.

04 Now we need to open a new scene in Vue and choose Daytime - Sunshine1 from the atmosphere collections, then choose Radiosity. In the render options, right-click the Render button and set the Aspect Ratio to Photo (36:24). Then position the main camera close to the ground.



05 In the camera object's properties, choose 83.219 for the Pitch, which refers to how far up the or down the camera is pointed. Roll is left at zero, and Yaw is set to 231.545, which refers to the compass direction of the main camera. The Focal Point is kept at 45mm, Blur at zero, Focus at 100 and Exposure left at zero.

06 The next step was to change the ground to a water material, which will cover the entire ground area. This will be the river. Click on the ground layer, then load material and choose Liquids from the list and then choose Clear Water. I then changed the water properties, which in this case required a fairly still and gentle flowing river with a highly reflective surface.

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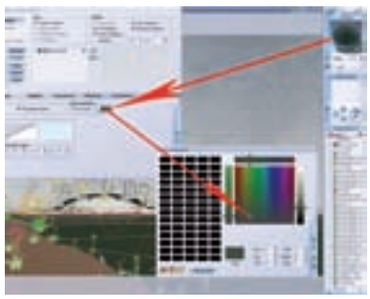
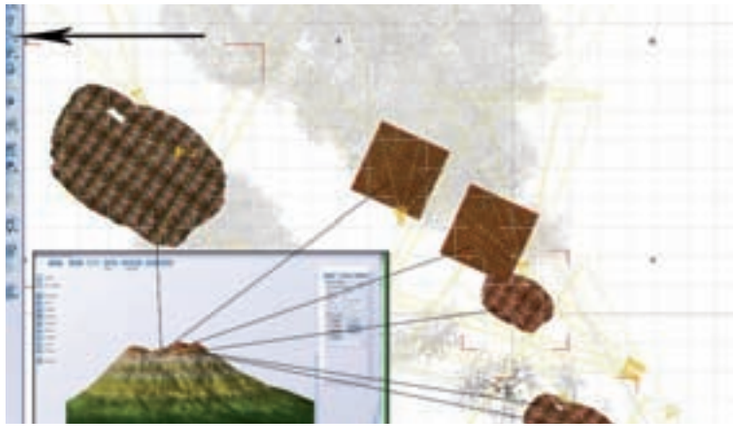
Materials & textures

Creating the water and terrains

07 **The most important** setting here is the Bump levels, which were set to a Depth of 0.020 to give a fairly flat surface and the appearance of small ripples. To achieve the reflective surface, I increased the overall Reflectivity to 50% and Brightness level to 100%.



08 **Next we need** to change the colour of the water material to a darker setting. Right-click the water material, click Edit Material, choose the Color & Alpha tab and then right-click the colour box in Color correction>Overall color. The overall colour of the water was changed to a Hue setting of 65 with Luminosity at 71 and Saturation at 34.



09 **I chose four** ground terrains, the most important being the one closest to the camera, which would contain the flower ecosystem. The others would act as the riverbeds. These terrains contain a simple grass and ground material. They are simple in construction and were moulded from the mountain selection with 256 x 256 resolution.

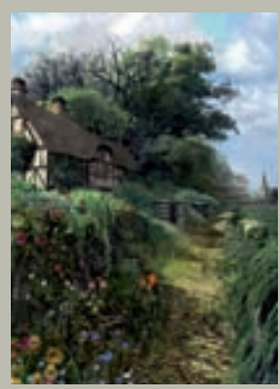
10 **I selected this** resolution because they were going to be covered by the ground material and didn't need to show much detail. I didn't spend much time sculpting these terrains, as I just wanted to get a basic riverbed appearance. Each terrain used the Vegetation material from the landscapes collection in the Terrain Editor.

Artist Showcase

Dominic Davison

My name is Dominic Davison, from High Wycombe, Buckinghamshire, UK. I currently work as a freelance digital artist. I had an interest in art from an early age and have been drawing and painting for as long as I can remember. I have been a digital artist for around four years, primarily using Vue, Painter and Photoshop.

Forever Autumn **(2009)**
I love autumn as there are so many colours, especially on a clear day. This scene was inspired by a walk I did and some photographs I took for reference. The scene was built in Vue with minor postproduction work



Wisteria Cottage **(2009)**
I love the paintings of Thomas Kinkade and so this was inspired by his work. I used the wisteria object from **www.cornucopia3d.com** to cover the house and walls, and also painted the roof of the cottage in Photoshop

December Morning **(2008)**
This scene was a design for a Christmas card and although most of it was built in Vue, I did a fair amount of snow painting in Photoshop. This was most evident on the surfaces of objects and tree branches

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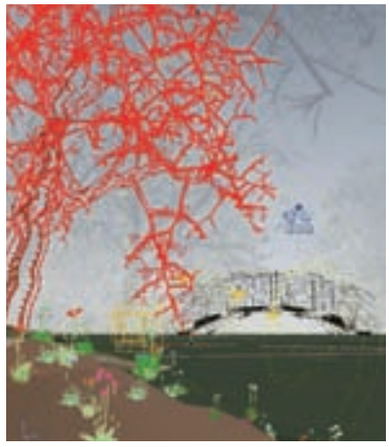
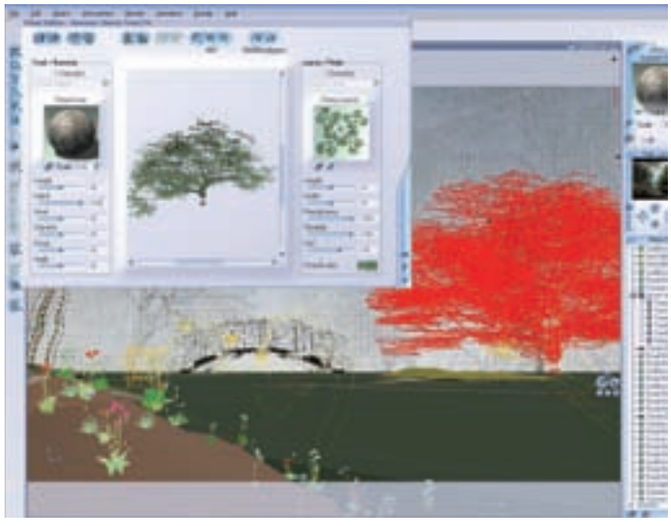
Trees and plants

Composing and editing trees

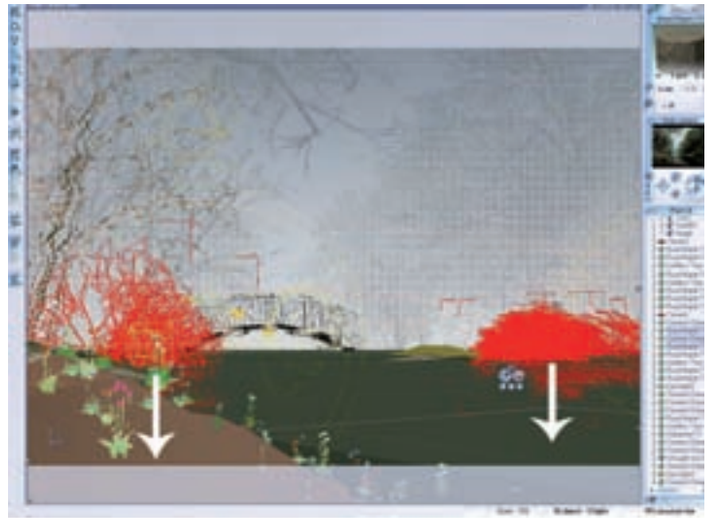


11 The tree closest to the camera on the left-hand side was a free model that I found on the net. It has great-looking branches, which provide a nice contrast to the bright sky and haze of the background. This tree was placed at an angle, so that it appeared to arch over the river.

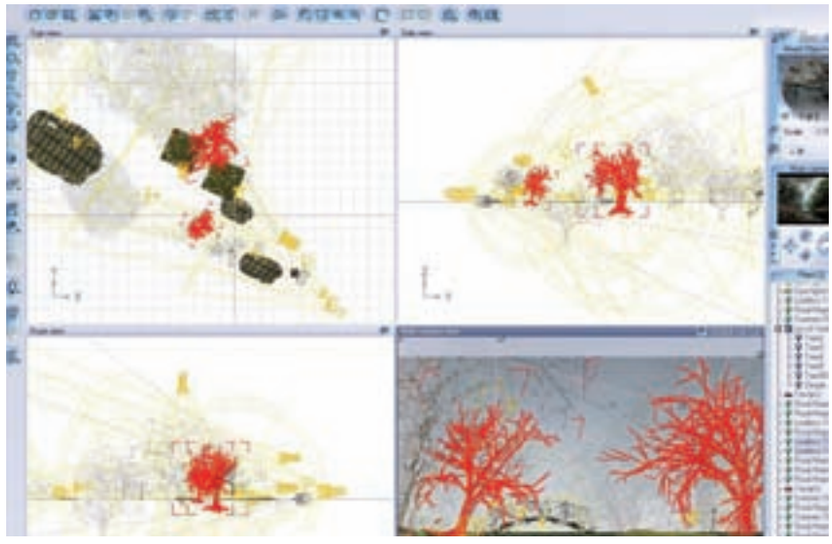
12 To add the rest of the trees, first right-click the tree icon on the left-hand menu. Now choose Trees and Summer Cherry Tree from the list. If you have the tree editor (Botanica) installed in Vue, you can edit the tree properties. Double-clicking the tree will bring up the editor. In here, I increased the Fallout setting of the main branches to between 50 and 100%.



13 I also changed each tree's leaves and petals settings. Setting the Randomness and Flexibility to 100% and Curl to 18%. This gives each leaf less of a 2D look and more of a realistic 3D appearance. The leaves of trees in Vue tend to use flat 2D alphas of leaves.



14 Each of these trees was then increased to the right size and placed onto each of the four terrains, starting with the two distant terrains. Most of the trees were positioned halfway into each terrain. This hides any remaining visible trunk and roots of the tree and turns it into a large bush.



15 The main batch of trees on the right-hand side of the scene have a similar way of placement as the distant trees. This time, though, we need to let some light through from the background. This is achieved by simply not placing each tree as far into the terrain as the distant trees. I also added the Leafless Tree from www.cornucopia3d.com to these batch of cherry trees.

Finding models

I would highly recommend www.cornucopia3d.com for affordable and high-quality textured models, covering every possible subject matter and exclusive to Vue users. www.renderosity.com has a free section containing lots of models. Also, try www.vanishingpoint.biz for models covering everything from cars to plants.

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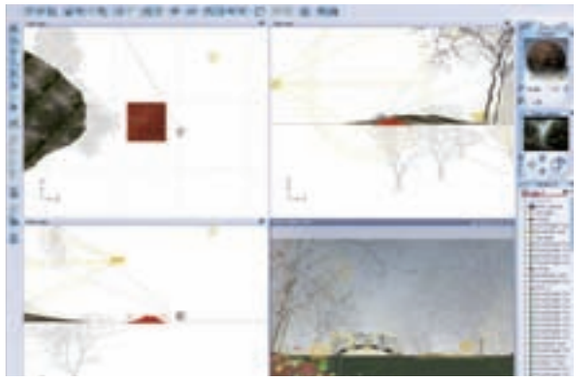
Ecosystem

Setting up and adding the flowers



16 Ecosystems are a way of populating part of your scene with hundreds or even thousands of objects. You need to be careful when choosing individual plants to fill an ecosystem that they aren't made up of too many polygons, as this will result in very long render times for that part of the scene. I added an ecosystem to the terrain closest to the camera.

17 The ecosystem was from Lush Ecosystems by Linda Daireaux and found at **www.cornucopia3d.com**. First select the Standard Terrain. The default terrain should be good enough. Then click Load Material and choose Just Wild Flowers from the right-hand selection.

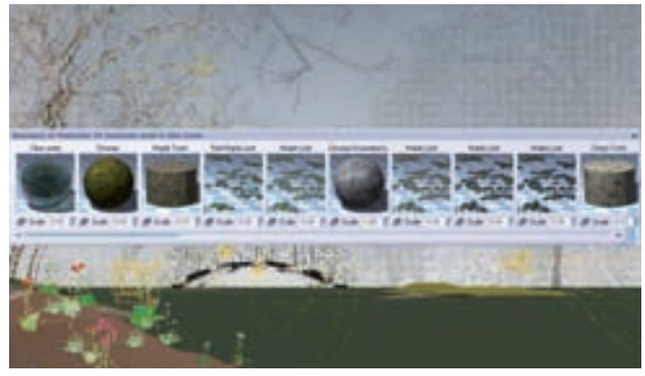
18 Click OK and choose Yes to populate the terrain. Then double-click the top right window to edit the ecosystem. In the ecosystem settings, leave the General tab as it is. Overall density was set to 95% in the Density settings, as I wanted a tightly packed flower terrain. Sampling quality was set to 93% and Avoid overlapping instances was unchecked.

19 Overall scaling was set to 0.500. Color and Environment were kept at their default settings. I then clicked on Populate to finalise these settings. Cast shadows, Receive shadows, Anti-aliased and Indirect lighting were all left checked. The Direction from surface setting was set to 20%, with Maximum rotation at 120 degrees.

20 Now double-click the terrain and adjust the Clip settings to 7.90. This gets rid of the terrain's default flat base. Because the flower ecosystem is covering the terrain we don't need to increase the resolution, so leave it at 256 x 256. Then position the terrain close to the main camera and slightly below.

Top tip

Don't forget to use the Material Summary, accessed via the top toolbar or from pressing F6 on your keyboard. This oft-forgotten but powerful feature is vital if you are using objects with multiple material groups, such as Poser models. All the materials within your scene can be reached from here and edited at any level.



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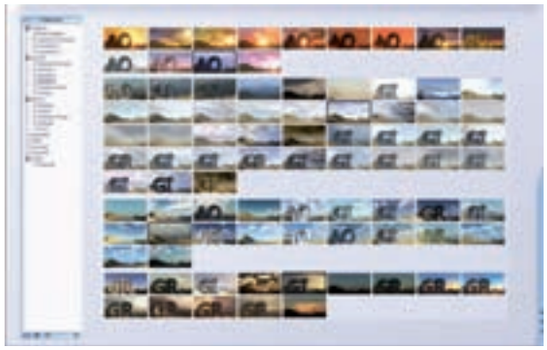
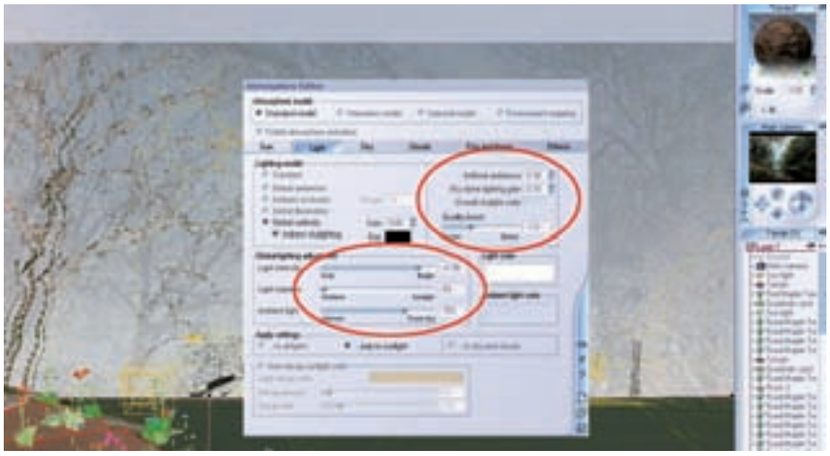
Atmosphere, lighting and fog

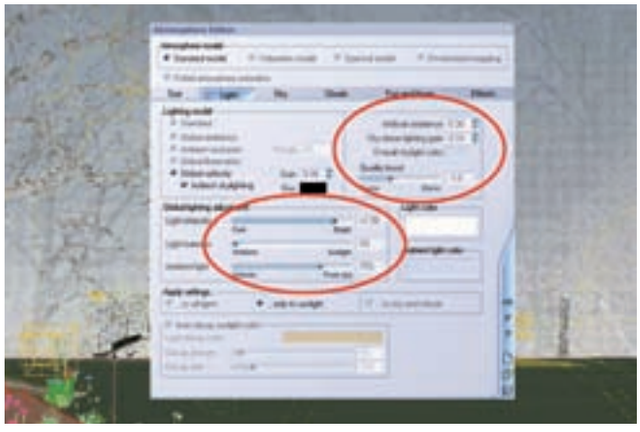
Change the weather settings



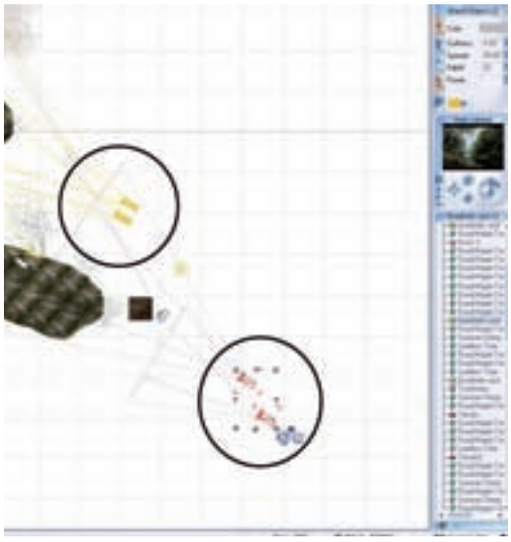
21 **For me, atmosphere** settings are the most important part of the scene creation, as this will determine the overall appearance of the render and how objects are lit. There are many atmospheres to choose from in Vue, and it's always good to experiment. With the literally hundreds of possibilities, just changing an atmosphere can be the difference between having an average or exceptional render.



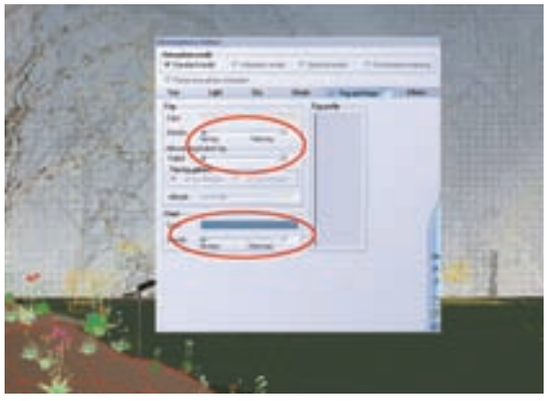
22 **I chose Global** Radiosity from the atmosphere menu, as it gives the most accurate of all the lighting settings in Vue. The main reason for this is because it allows objects that have been hit by light, from the sun and other objects, to then emit parts of that light elsewhere.



23 **As there is** a large amount of ambient light, I needed to increase the overall Light intensity to +1.50, Ambient/Sunlight balance set to 0% and Ambient light set to 75%. The Artificial ambience was set to 0.30, Sky dome lighting set to 0.10 and Quality boost to -1.0.



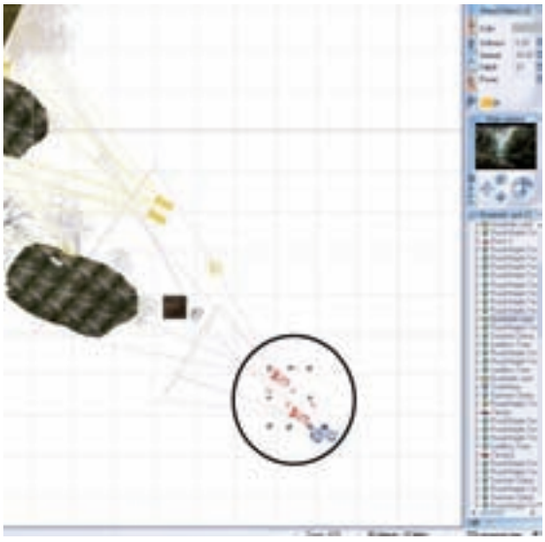
24 **I chose to** include several Quadratic spot lights positioned at the front of the scene to highlight the ecosystem's flowers and trees. Spot lights have the same effect as Point lights, but they only emit a cone of light that is brighter nearest an object. Point lights emit light in all directions, but gets weaker and dimmer the further away it gets.



25 **The fog and** haze settings were set at 10 for the fog and 17 for the Haze. I wanted to get an overcast appearance for the scene, and a distant haze on the horizon. I didn't want much fog, as this would have made the objects nearest the camera too cloudy. I also changed the colour of the haze to a navy blue.

Expert tip

For greater control within your Vue scene, consider turning off all ambient light settings within the Atmosphere and Materials settings. Once familiar with the options, you will realise that the use of Fill lights to regulate the lighting and shadows will result in greater control of your image's final output and an image with greater depth and richness.



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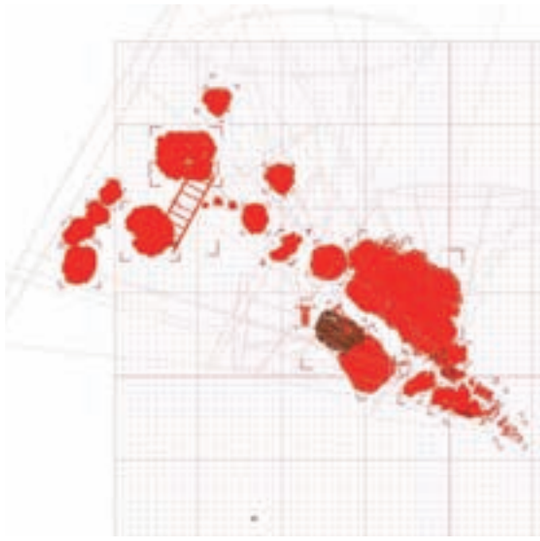
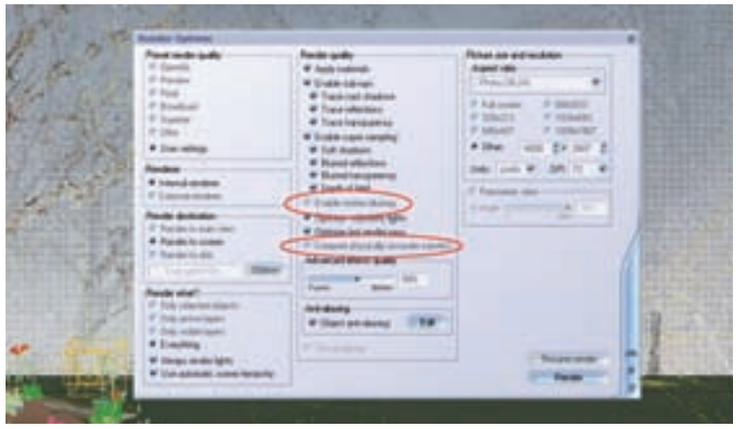
Rendering

The settings for the final render

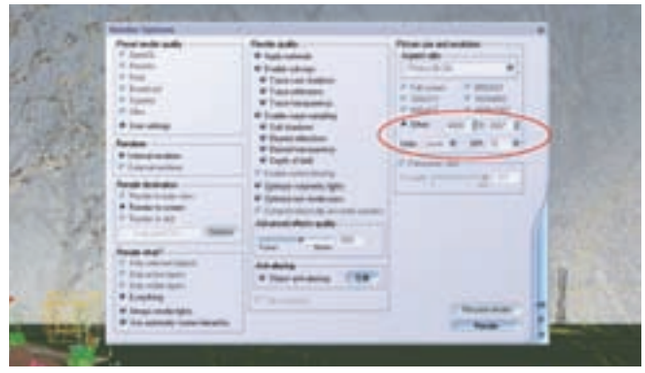


26 With your scene built and ready to render, it's important at this stage to make sure everything is correctly in place. I would suggest doing preview renders in areas that you need to check. It is a mistake to think that render settings alone will produce a great-looking image. As mentioned previously, the atmosphere levels will affect the final appearance of the scene just as much.

27 By right-clicking the render button, you will then be able to adjust the render settings. Many people make the mistake of just using the preset render options on the left-hand side, which are fine but not necessarily for every type of scene. It's best to click on User settings and manually adjust what's appropriate and what isn't.



28 For this render, I unchecked Enable motion blurring and Compute physically accurate caustics. They weren't needed as I wasn't making an animation or using light gels. It will also increase the render time of the scene with these options used. In Render destination, I selected Render to screen, as I wanted to see the render in progress.



29 The higher the resolution set, the longer the render time. For this render I selected 4,000 x 2,667, as I wanted a very high resolution and to be able to print to at least A3 size. The DPI setting should be left at 72, as this setting can be changed in Photoshop later. If you increase the DPI setting in Vue, it will dramatically increase the render time. Resolution is what matters the most here.

30 Check the Anti-aliasing box and click on Edit. This setting will improve render results, particularly in lower resolutions. Choose Optimized, which is accurate enough for this render. The subrays per pixel were left as 3 minimum and 9 maximum, which is a nice balance between quality and render time. The same applies to the Quality threshold, which was set at 40%.

Top tip

Experiment with different aspect ratios for your image before you get too far in building a scene. Vue comes with a wealth of aspect ratio choices within the Render Options. Choosing something a little different from the usual 4:3 can make a very dramatic difference to the finished render. Landscape scenes look dramatically better if they are set to one of the widescreen settings, such as Panavision or Cinemascope.

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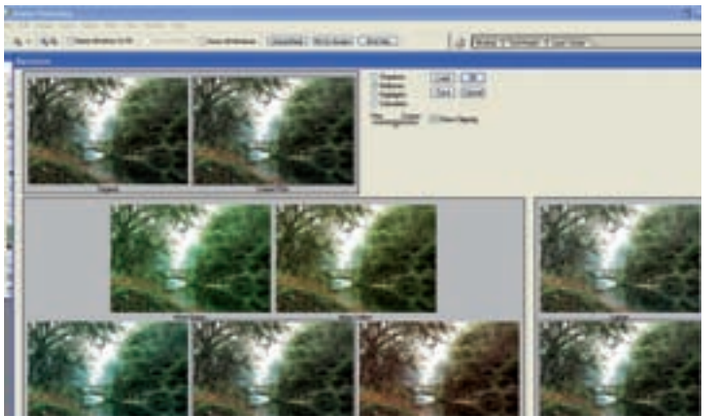
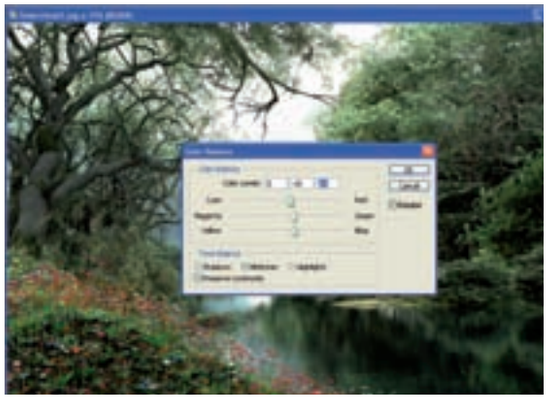
Postprocessing
Add the final touches

31 With your scene rendered, there will usually always be areas of a scene that need tidying up or highlighted. This is where an editing program such as Photoshop comes in very handy. Most of my renders aren't fully complete without additional postproduction. The postproduction options in Vue are fine but limited and not as flexible.

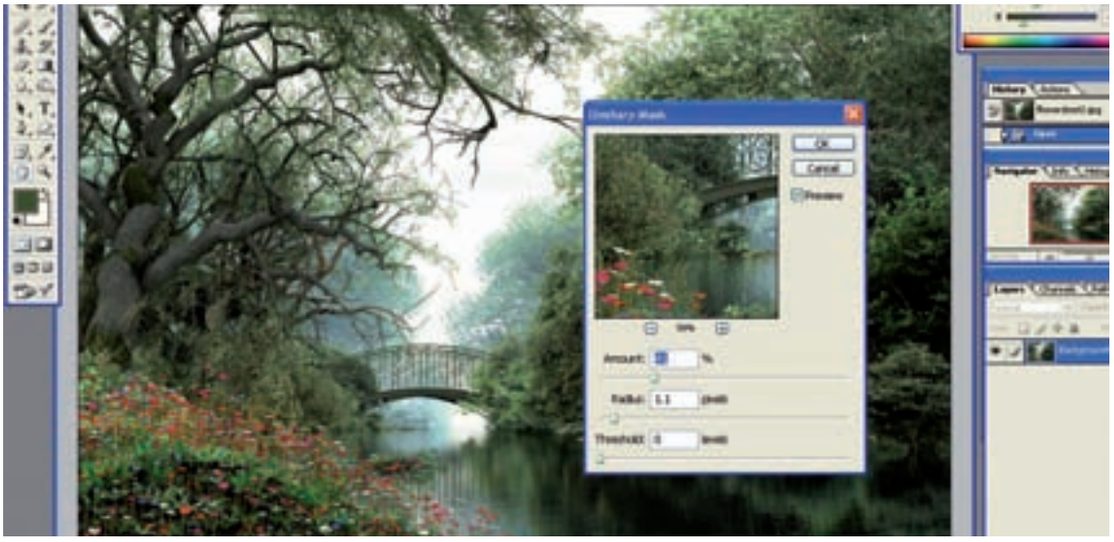


32 I wanted to change the overall colour settings for the scene to bring out the greens of the vegetation. Open the scene in Photoshop and choose either Image>Adjustment>Variations to experiment with different colours, lighting and hues. Again, select the midtone blues and greens for interesting results.



33 For more accuracy, choose Image>Adjustments> Color Balance and experiment with the colour sliders in order to get the desired result. Adjust the Midtones for the best results. I chose 5 for the Magenta to Green slider and 6 for the yellow to blue slider.

34 Although the render in Vue will usually be close to perfect, I find that changing the contrasts and brightness can dramatically improve the scene and bring out more detail in objects. There are several ways of doing this, but I find that using the Curves command in Photoshop is the most accurate. Again, experimentation is the key.



35 Open the scene in Photoshop and choose Unsharp Mask from the Filter menu. I chose 41% for the Amount and a Radius setting of 1.1. This gives the overall render just the right amount of sharpness. Using the Sharpen tool to bring out sharpness in specific areas, such as the flower ecosystem, is also worth considering. Using Anti-aliasing in Vue to sharpen would increase the render time significantly.

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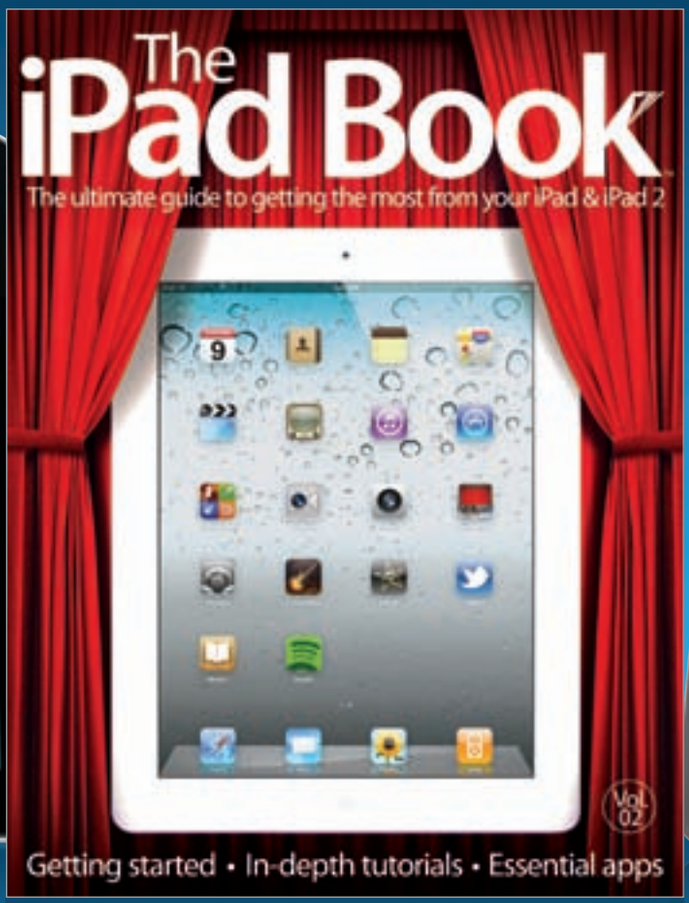
Learn in style

iPad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I made this...

Incredible 3D artists take us behind their artwork

Artist info

Cesar Soto

3DArtistonline

Username: Smallone3d

Personal portfolio site www.scymedia.com

Country USA

Software used Maya, 3ds Max, ZBrush and Photoshop

Software used in this piece

3ds Max | Maya | Photoshop | ZBrush

> Most of the modelling was done in Maya. Some basic modelling and UV layout was done in 3ds Max, while the character's clothing was created in ZBrush

> Beauty layers were rendered in different passes (Foreground, Character, Background and Back), along with several Ambient Occlusion passes. It was all put together in Photoshop

Trojan Spy
2009

This was my entry for the Secret Agent CGChallenge. The story is this: Troy has sent a spy to the Greek camp, who must find out what the Greeks are up to. She works her way up to the Greek armoury tent only to find out what they have in store for the city of Troy. But she is surprised by a Greek soldier – another Greek tragedy!

Lighting was done in Maya. Because of the time and hardware limitations, there were four lights for the foreground, two for the back of the tent, another for the back light on the character and some back highlights

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"Rendering was mostly done in Maya, but I ended up retouching the final details and atmosphere in Photoshop"

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Modelling

Create a custom-designed kitchen

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Red Kitchen 2008

> This kitchen was originally designed for my friend. In this Blender tutorial we are going to re-create it step by step

Yaroslav Lebidko is an interior/exterior designer and 3D visualiser

Software used in this piece

Blender · YafaRay · V-Ray · The GIMP

The aim of this tutorial is to walk you through the creation of a photoreal picture of a kitchen using freeware software.

For modelling, we used Blender 2.49b. This is considered the leader in the world of free 3D, although there were no improvements for accurate architecture modelling in its last few releases.

For visualisation, we used YafaRay 0.1.1. The physically based render engine LuxRender would probably have given the best fit for interior visualisation, but if you don't own a render farm then the calculation and rendering will take a very long time.

Finally, we used image-manipulation package The GIMP for postproduction. You will only need basic skills in this application to create the final outcome.

First of all, we will begin by creating the kitchen itself and setting the lighting. Next, we will create the furniture details and set the materials.

The aim of the work is to show the client, producer or contractor how the space and furniture will look like.

01 General preparation

According to previously made measurements, we have a room that's 5.6 x 3.5 x 2.7 metres, with two doors and a window.

Begin with a grid in Blender. We're using a scaling system of one Blender unit equivalent to one metre. Move the camera to layer 10 and the light to 20. Turn these layers off. Change View to Top, then delete the default cube and add the plane. Go to Edit mode and scale the plane to 0.4 x 0.4m (holding Ctrl will apply the Snap to Grid function) A.

As you can see, the plane's pivot is in the centre. Currently, it is not a circle, so move all vertices in Edit mode to Dx:-0.2 and Dy:-0.2, remembering to Snap to Grids. Exit Edit mode and use the Transform Properties tool to make sure your plane is located at LocX: 0.0; LocY: 0.0; LocZ: 0.0 on the first layer. Use the Transform Properties tool again to rename 'Plane' to 'Walls'.

A This shows the UI and the scene ready to start modelling

behind the scenes

3D artists explain the techniques behind their amazing artwork

Artist info

Yaroslav Lebidko

Personal portfolio site www.3dxata.com.ua

Country Ukraine/Poland

Software used Blender, YafaRay, V-Ray, The GIMP

Expertise Yaroslav began to get 3D experience as a kitchen designer nine years ago, then was a freelancer interior designer from 2002 to 2005. After that, he founded his own design studio called 3D XATA. Now he deals with 3D interior and exterior designing, as well as architectural 3D visualisation

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02 Model the room

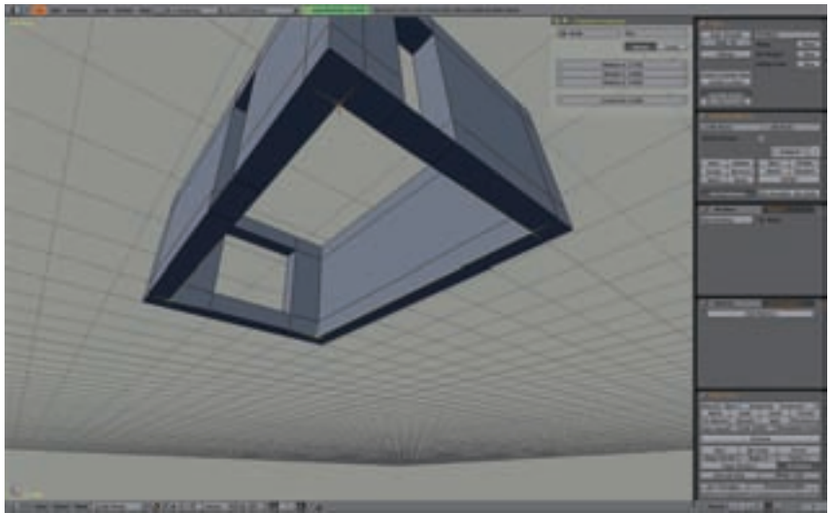
In Edit mode, select two upper vertices and press E to bring up the Extrude tool. Select Only Edges from the pop-up box, then along the Y axis type 1.6 on the NumPad. By entering this, you are accepting that the extruded vertices will move by 1.6 metres. Repeat this process from bringing up the Extrude tool to entering numbers on the NumPad, but this time enter 0.8 to move the extruded vertices by 0.8 metres. Repeat twice more, once with the value of 3.2 metres, and finally, to form the thickness of the walls, with the value of 0.4 metres B.

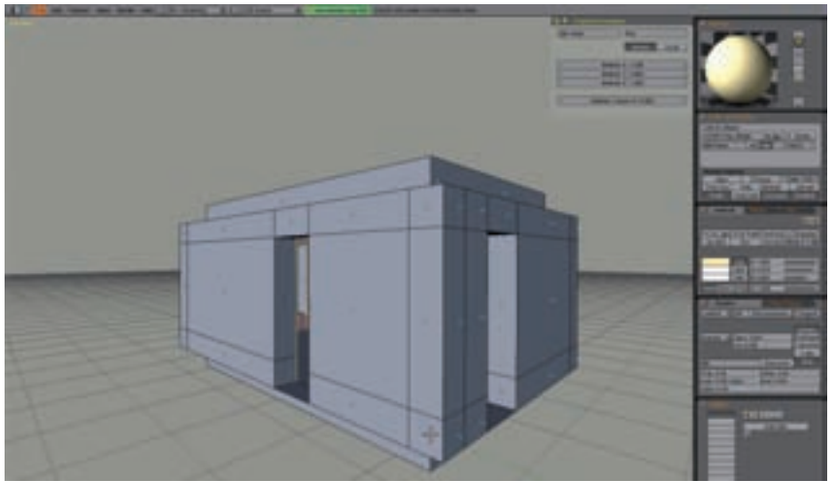
Next, change the direction of the extrusion to X for the wall with a window on, to –Y for the long wall on the right ("g"; "y"; "-") and then to –X for the last wall with a second door in it.

We need to extrude vertices on the Z axis in order to make four levels of height. The floor level is equal to 0.00 metres, as standard, while the windowsill needs to stand at 0.40 metres, the tops of the doors and window at 2.20 metres and the ceiling at 2.60 metres.

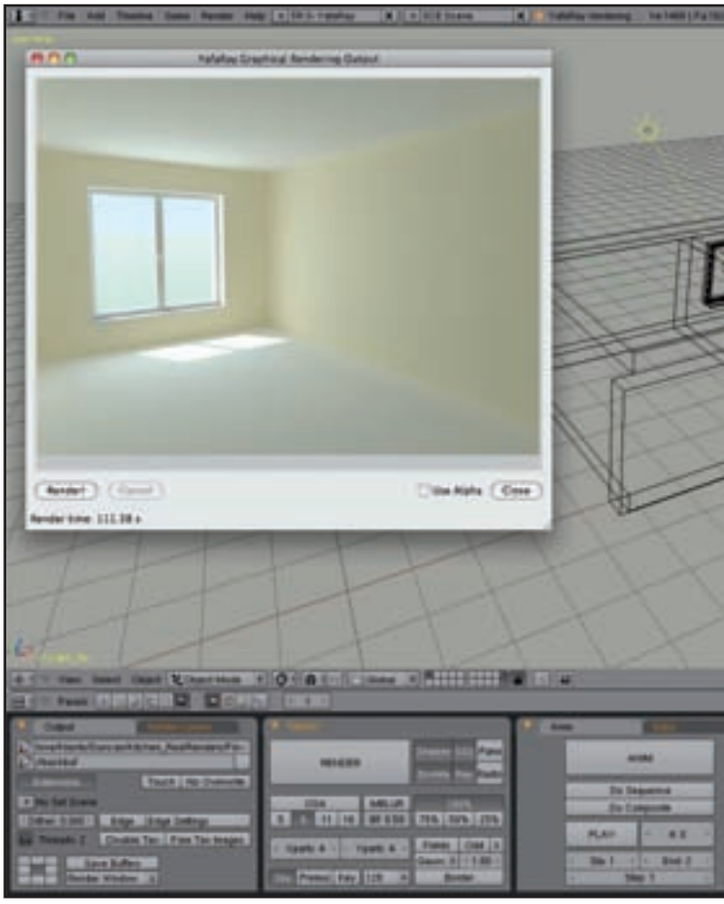
In order to create the vents for doors and a window, enter Edit mode and choose Face Select mode. Select the window's inner face and the opposite door's outer face, then bring up the Extrude tool. Select Only Edges from the pop-up box, then along the Y axis type 0.4 on the NumPad and apply this to the scene. Unselect anything that's currently selected, and then select all that's on the screen. Open the Specials menu and choose Remove Doubles. Then unselect everything once more.

B Constructing the kitchen walls





C Normals of the walls



03 Make doors

Only one face thickness remains on the window and doors, so delete that face. Next, repeat the previous steps for the other door C. To create the floor, select the four lower vertices in the inner corners of the room and choose Face Select mode. Bring up the Extrude tool and select Only Edges from the pop-up, entering a negative direction along the Z axis. With the floor sorted, now just repeat these steps to create the ceiling.

Next, it's necessary to check the orientation of the faces' normals, as some renders are sensitive to these. In Edit mode, select all of the faces. Under Mesh Tools More (the shortcut key is F9), press Draw Normals. You will see that some of the normals have incorrect directions. Check all of the vertices on Doubles and press Ctrl+N for the Recalculate Normals Outside command.

In Object mode, apply a white clay material to the walls and a beige clay to the inner faces of the walls in Edit mode.

04 Create a window

To create the window D, you will use the same technique of extruding the planes or boxes. The important part to remember in this step is that you will need to bevel some of the edges with the Bevel Center. This can be found via Scripts>Mesh>Bevel Center. Next, create a new Plastic_ White material for the window.

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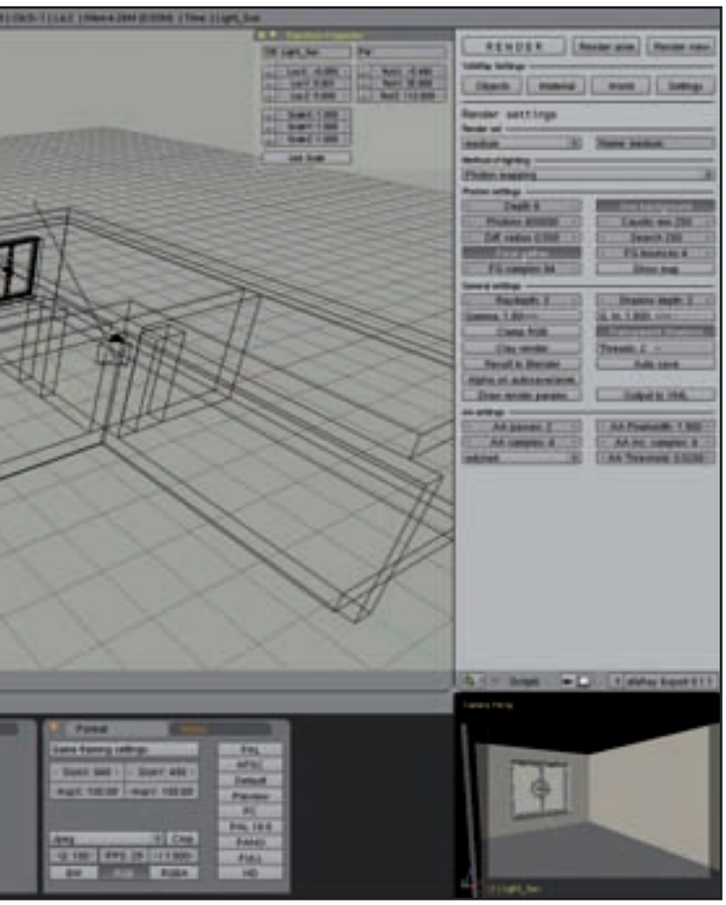
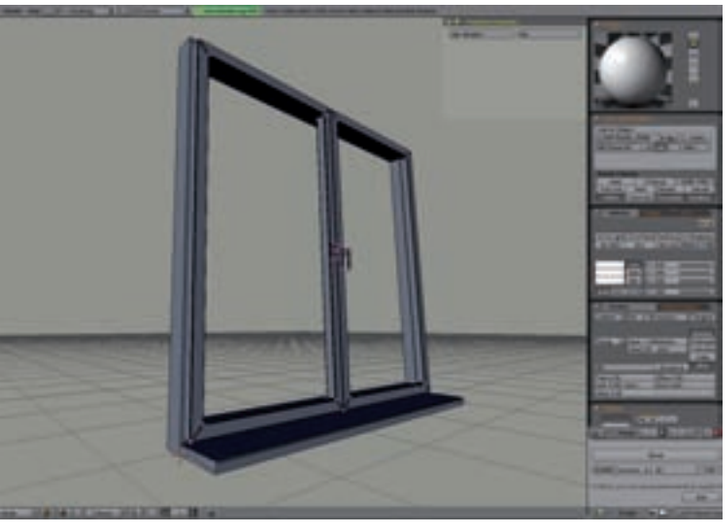


05 Apply colours

It's not necessary to set up the materials precisely, because YafaRay's script has its own Material Editor. Here, only UV maps will be used from Blender. As a result, you will only need to apply basic colours.

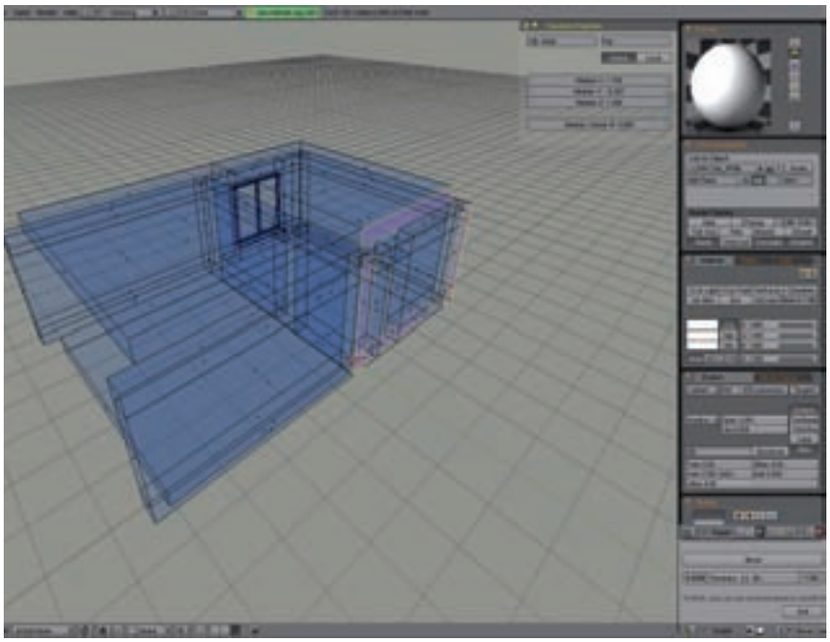
The final thing about the room is that there won't be any doors E. It's inadvisable to leave the door vents open, as too much light would be coming through. All you need to do is lengthen the walls and ceiling to make an obstacle for the light. Five metres should be enough for this.



D The window is created by extruding planes or boxes

F UI, lighting and rendering

E Finish the walls off by extruding and add colour



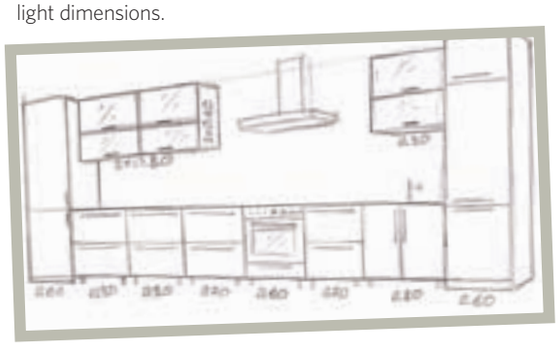
Solving problems

Modern styles of kitchen furniture allow for the use of simple geometric forms for modelling, such as cubes, planes and cylinders. Most renders are sensitive to the geometry being correct. For example, while modelling a glass door for the upper cupboards of the kitchen, it is not possible to use Face Select without any thickness. The render may consider the whole space as glass because of this plane. That is why using cubes is recommended. The size of the model is also important. After you finish modelling every element separately, scale and rotate with reference to the ObData (Ctrl+A). After this, check the directions of the normals in Edit mode via Ctrl+N (Recalculate Normals Outside). A brief summary of the sizes of the kitchen elements might also be helpful. Make the depth and height of the upper cupboards around 0.30 and 0.85-0.90 metres respectively and the depth of the table top around 0.60 metres, with the height between the table top and upper cupboards between 0.50 and 0.70 metres. Leave space of about 0.05-0.1 metres behind the lower cupboards, as this is where supply lines will go for water, sewage, gas, etc. A second layer is used for the kitchen furniture within this scene.

> "It's inadvisable to leave the door vents open, as too much light would be coming through"

06 Lighting and rendering

For the scene lighting, use a Sun light with a light yellow colour and eight subdivs as well as one Area light with a light blue colour and 16 subdivs F. However, be aware that you ought to only use scaling for changing the dimensions of the Area light, and not the F5 keyboard shortcut for rectangular light dimensions.



G A sketch of the kitchen's furniture

07 Design the units

As you already have a precise model of the room, you can think about the style of kitchen furniture. Compensate the simple geometric forms of your chosen style by using metal, glass and interesting colours. Zoning is very important for the functionality of the kitchen G.

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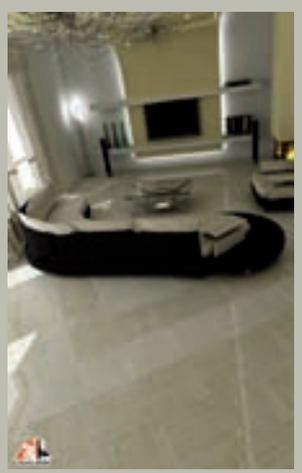
Artist showcase

Yaroslav Lebidko
My career in 3D began in 1992. Since then I have won numerous design competitions over the years.

Idea generator **Blender, YafaRay, The GIMP (2006)**
A visual representation of my office

Dinner Room **Blender, V-Ray, The GIMP (2009)**
This is the dinner room in the house of my client



Hall **Blender, YafaRay, The GIMP (2007)**
A visualisation of the hall in my client's house

Stone House **Blender, V-Ray, The GIMP (2009)**
This is an example of an architectural visualisation and landscape projection

Detail modelling

Forming the furniture

08 Lower cupboard

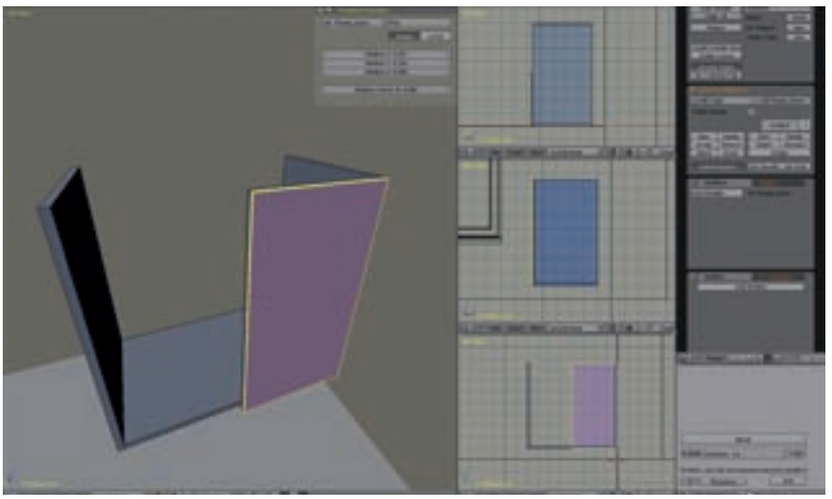
Turn off the 10th and 20th layers with camera and lights. Add a cube mesh and move it to the second layer. Within Edit mode, change the dimensions to 0.45 x 0.02 x 0.76 metres to make one side of a cupboard. Still within Edit mode, copy the side along the Y axis, making Y equivalent to 0.80 metres. Copy one more side, turning it 90 degrees and placing it at the bottom. Bring all of the tops up to 0.10 metres along the Z axis to create the place where the metal legs will go. The same side will be used to create the door and drawer, but for the front side the Bevel Center script will be used. Set Thickness to 0.003 to give it a 3mm radius, press Bevel and then give it a Recursive bevel with a level of four to smooth it.

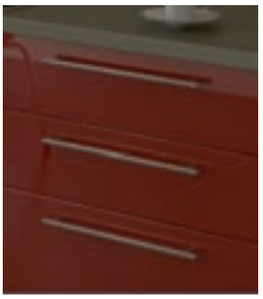
> "Decreasing the size of the doors will help to avoid them rubbing against nearby elements"

Decreasing the size of the doors (but not the thickness) by one to three millimetres will help to avoid them rubbing against nearby elements, as well as increase realism. Next, the doors need to be copied H.

Use a cylinder to model the handles, with vertices at 64, radius at 0.007 and depth at 0.4. Remain in Edit mode and copy the cylinder, turning it 90 degrees. This cylinder will be where the handle fastens to the door, so it's necessary to get an accurate length and location. Copy the second cylinder, and to make the handle look more realistic apply a Subdivide Smooth value of 2.0 to its upper and lower ends.

H Lower cupboard modelling





I Rendering

09 Create the door handles

To copy the handle for the other doors I, press Shift+D, followed by Y and a value of 0.1, then press Enter. Next, use the same copy of the side to model the table top, sizing and placing it appropriately. Pleat the front face, using a Bevel Center script for its upper and lower edges, with Thickness at 0.005 and Recursive Bevel at a level of 4.

The legs will each be made of a box with an X and Y value of 0.03 and a Z value of 0.10. Make each leg thicker at the base by first making it 0.09cm high so the missing remaining value ensures that the leg doesn't touch the floor, then extrude the lower face without moving it (Esc). Then scale and extrude the remaining value. Use a Bevel Center script with Thickness at 0.001 and a Recursive Bevel at a level of 2

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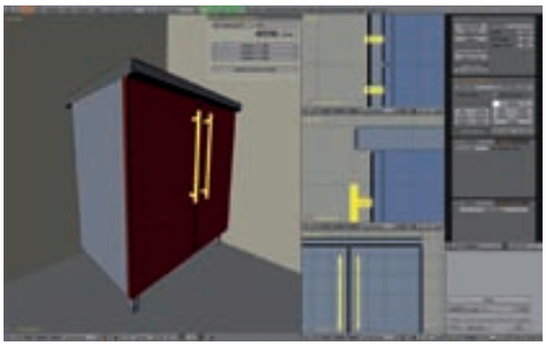


J Creating the detail for the upper doors

applied to all sides of the leg. Now copy the leg along the front Y axis.

At this point, the cupboard is ready to be copied and used as the base for the rest of the cupboards, with the exception of the glass doors for the upper cupboards. But before copying these, it's advisable to define the materials for the main elements of the cupboard. In Objective mode, set the main material as WPB for the cupboard. Remember that YafaRay has its own Material Editor; the colours set now are just to differentiate between the materials, so set WPB to light beige. In Edit mode, deselect everything and then select the elements that have the same materials (the legs and handles will be aluminium). Hover over each element required and press l to select the whole element. Repeat for all the handles and legs.

In order to select the new materials for the selected elements of the mesh, follow Links and Materials>New> Assign. Name the new material 'MET_Aluminium and give it a grey colour. Apply the same procedure to the table top and the doors. Textures will be applied after the kitchen is completely modelled.

10 Model the upper cupboard

The doors of the upper cupboards are closed aluminium profile with glass inside. For the modelling of the metal elements you could use Curve Path and Curve Profile, but after converting Curve into Mesh many unnecessary vertices appear and the face normals aren't usually orientated in the correct way. That is why a cube is used again, set to 0.8 x 0.8 x 0.02. Using the Knife tool, divide the sides of the cube (but not the thickness) into four sides. Move the sides by 0.02 and 0.05 from each end, and you should end up with something similar to what's shown in the screenshot K.

Finally, apply a Bevel Center script to all sides, with Thickness at 0.001 and a Recursive Bevel level of 2. Now add the cube to imitate the glass, then move on to modelling the handle with the cylinder.

11 Model ceramic tiles

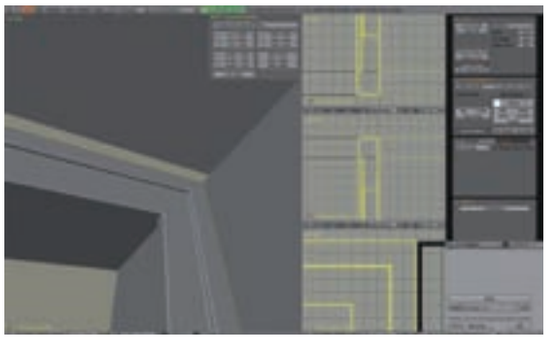
One floor tile will have a size of 0.35 x 0.35 metres. The joint that will suit it is 0.002 metres. Therefore, the size of the tile model will be 0.352 metres. Repeat the technique of modelling that was used for creating the upper and lower doors of the kitchen furniture, then set different materials for the joint and tile. Set the UV texture scanned from the catalogue as the material of the tile, and set the colour (Col). To spread the tile around the floor, use the Array modifier, but turn every other one around by 90 degrees to get a chessboard effect L.

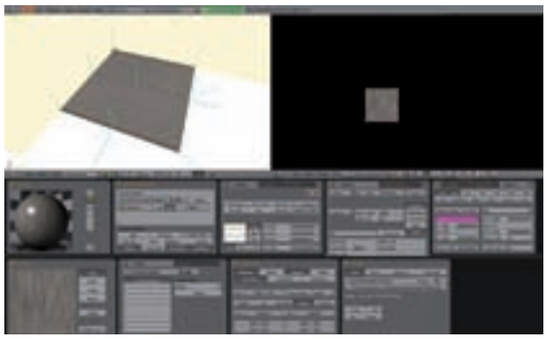
Rendering

In order to get beautiful, clear and photorealistic pictures, I spend a lot of time reading forums and performing experiments. The problem is that products like YafaRay are constantly developing, so new possibilities appear. It is extremely rare that you can find a full and comprehensive answer from other users. That is why my settings are not ideal, but are the results of my own observations and analysis. You will find all the materials and textures on the disc with the scene.

Here are some general ideas for materials: ShinyDiffuseMat – mat (walls, some stone ones) or shiny surfaces (chrome); Glossy – materials with scattered light reflection (not shiny plastic, ceramics, manufactured wood); Coated_Glossy – the same as Glossy, but with the thin, shiny pellicle.

K Creating the detail for the upper doors



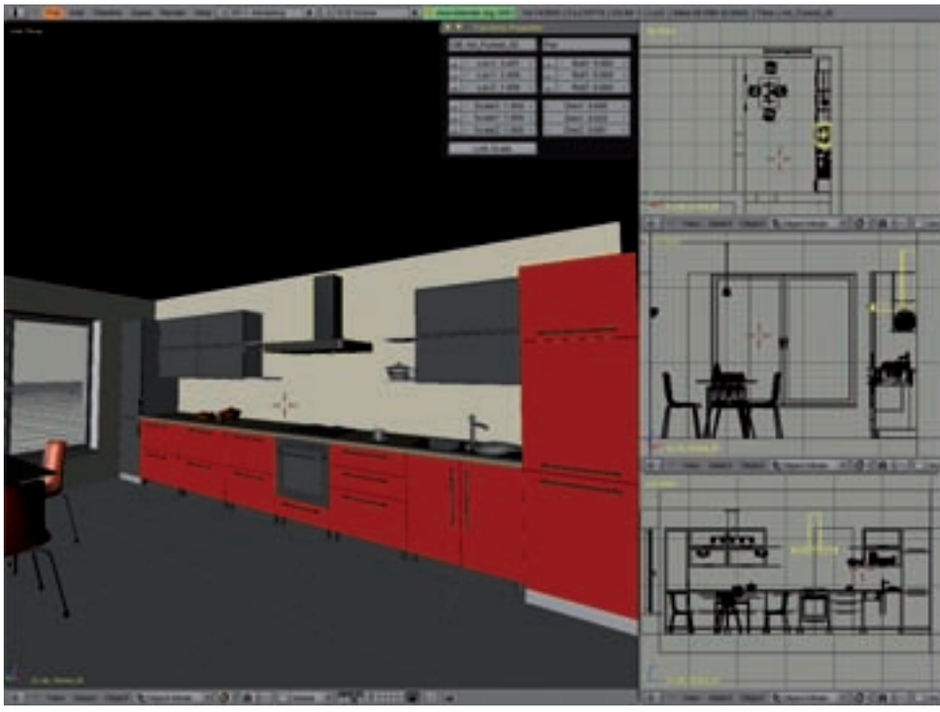


L Applying the texture

10 hours render time
Resolution: 3,000 x 2,256

12 Import equipment

Import the necessary elements of the scene (plates and dishes, lamps and so on) from previous storage, 3D libraries or the internet. After the import, check the scale of the model (Ctrl+A) M, the direction of the normals (Ctrl+N) and set the correct materials. Give the models logical names, too. Finally, use layers. These will not only make your work easier, but they will also save time.



M Importing equipment

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Have a question about the software you use? Thwarted by creative block? Contact us and we'll help you get back in your 3D groove

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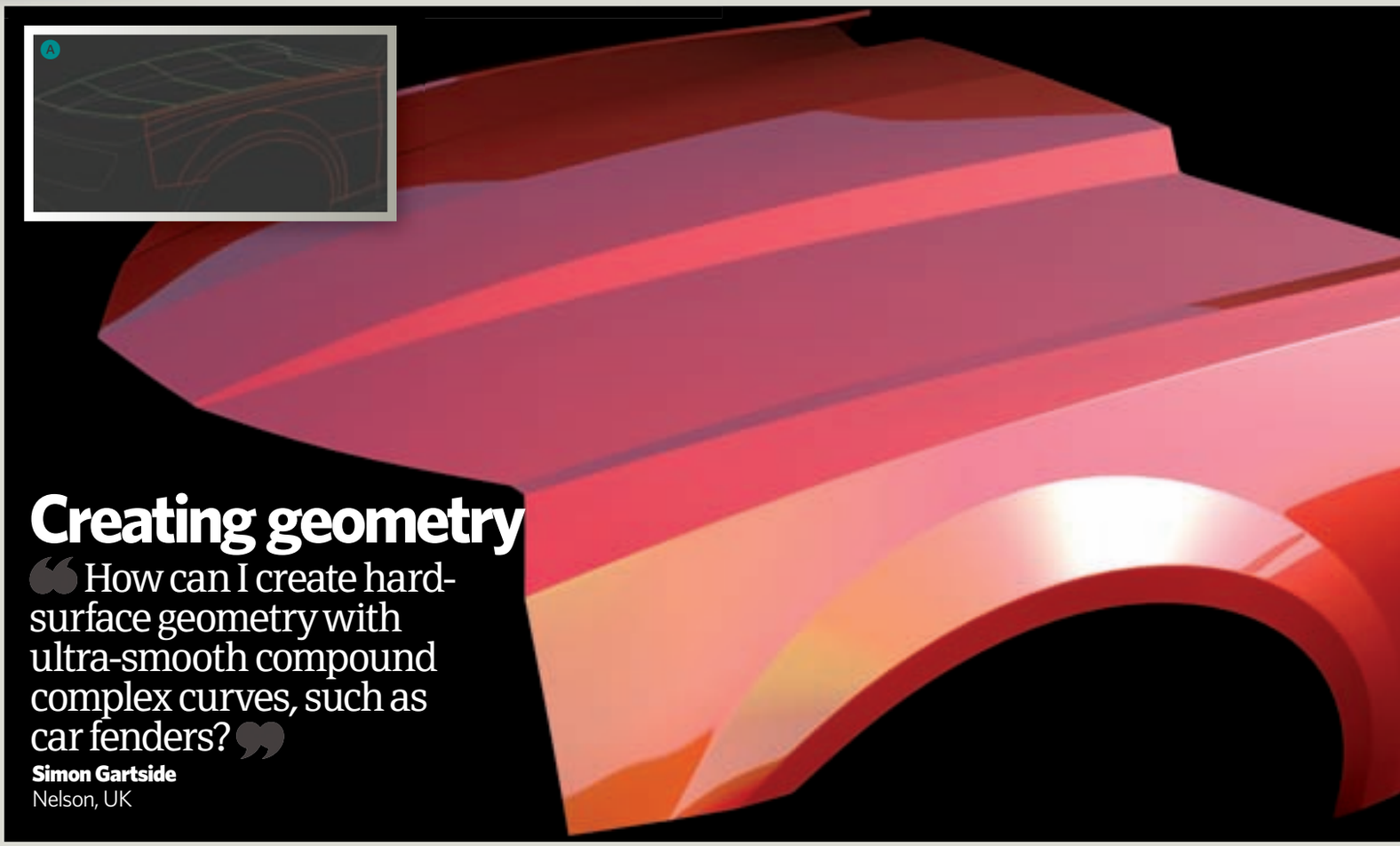
Geometry
Lance Hitchings
www.hitchingsdesign.com

Lance is our Maya master and in this issue he's discussing geometry and how to model hard surfaces like the bonnet of car

Characters
John Haynes
zugok@sbcglobal.net

John works on characters for games at Sega in California. In this issue he explains how to use rendered AO maps to create textures in Photoshop



Creating geometry

"How can I create hard-surface geometry with ultra-smooth compound complex curves, such as car fenders?"

Simon Gartside
Nelson, UK

The goal of every 3D artist who models automobiles is to build flawless body panels. No ripples, no waves and no distortions. We all want to see reflections that look like they're coming off of perfectly ground optical glass, not fairground mirrors.

The technique that produces the most smooth meshes starts with NURBS surfaces, which are then converted into polygon geometry.

01 The foundation

Before we can create the NURBS surfaces, we need an accurate set of curves. Here we have a set of curves built for a 2009 Chevy Camaro A. We'll be using the curves that define the front-left fender and the bonnet for this walkthrough.

02 A few simple rules

All NURBS surfaces have four sides, with a given number of isoparms running in the U and in the V directions. In order to build a NURBS surface, all of our tools have the same requirements regarding the curves. The curves that define the top and the bottom of the NURBS surfaces must have the same number of spans and must both start and end on the same side. The same is true for the curves defining the sides.

Here we have the curves that we'll use to build the bonnet B. We've set the display to show the CVs. All the horizontal curves have the same number of spans, all starting on the left side. Likewise, both vertical curves have the same number of spans and both start at the bottom.

03 The Loft tool

The Loft tool is the most simple of the three tools to use and is used when your surface is defined by a series of two or more curves, with the ends of the curves defining the edges. You simply select the curves, as we've done in the first image C. If there are more than two curves, make sure you select them in order. Then go to the Surfaces menu and choose Loft. The second image shows the result D.

04 The Boundary tool

The Boundary tool requires a curve for each of the four sides of the NURBS surface. Select each of the four curves in order (clockwise or anticlockwise). In the Surfaces menu, choose the Boundary tool

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growing community at www.3dartistonline.com

Architecture
Ryan Knope
info@ryanknope.com

Ryan is our architecture and 3ds Max expert. In this issue he tackles the problem of creating glass windows with exterior sunlight making them too dark or reflective to see through

Trees
Daniel Lovas
http://lovas.cgsociety.org/gallery/

Daniel is our resident CINEMA 4D and sci-fi specialist. In this issue he discusses how to populate a scene without spending hours planting every tree

Landscapes
Dominic Davison
www.3dartistonline.com/show_profile.php?userid=382

Everyone say hello to Dom who is joining as our Vue expert. Whatever you need to know about this landscape creating program, Dom has the answer

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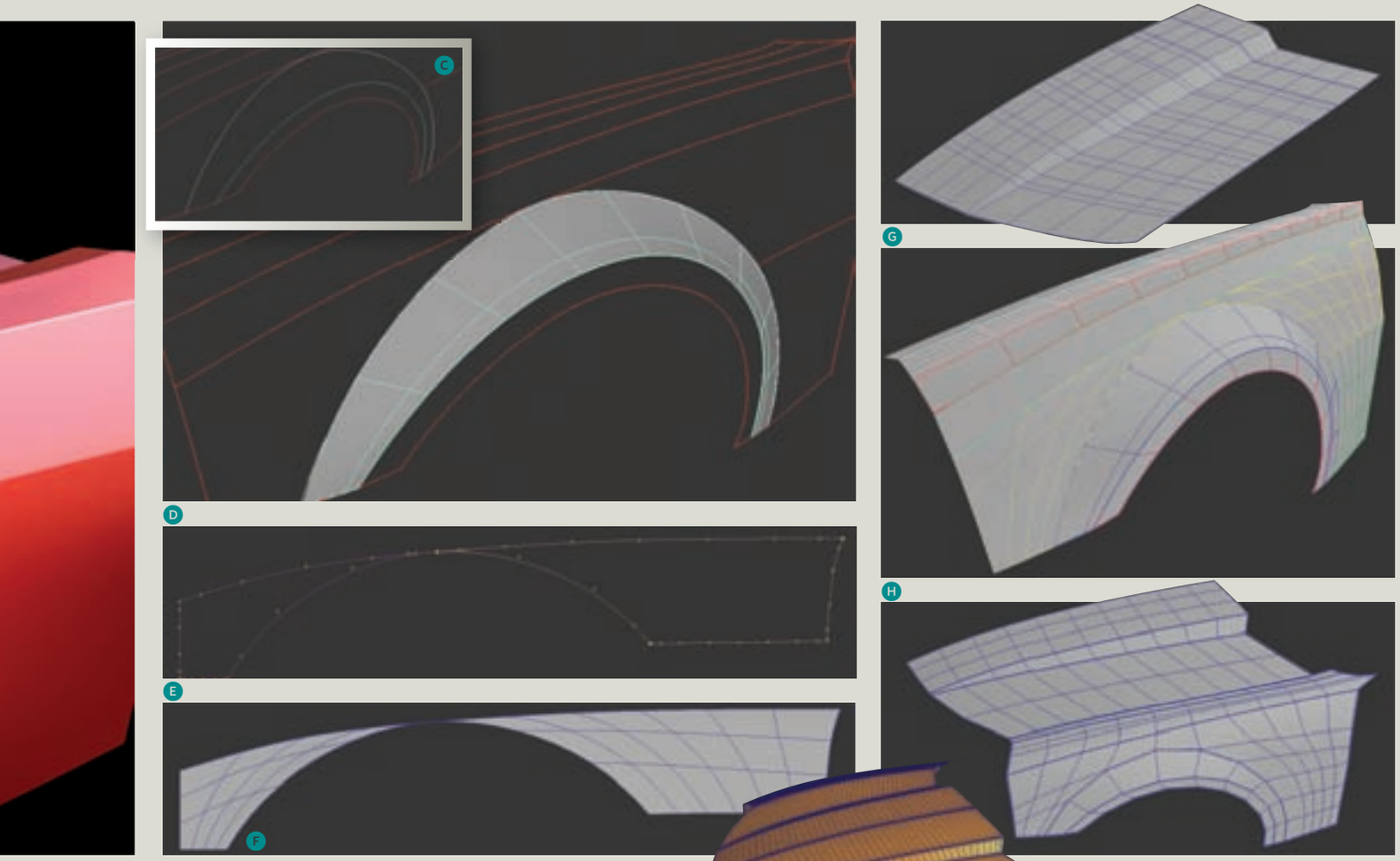

option box. Choose As Selected to build the surfaces from the curves in the order that they were selected. This will give you a much better result than selecting in a random order and choosing Automatic. If the Common End Points option is set to Required, make sure all the end points are matched by snapping them together. Use this method to get the best results.

In the first image, you can see two sets of four curves that will be used to build two NURBS surfaces E, and in the second image you can see the results F.

05 The Birail tool

The Birail tool uses a series of parallel curves as profiles, like the Loft tool, but also requires a secondary pair of curves to define the two sides of the surface. To use the Birail tool, in the Surfaces menu choose the Birail 1 Tool for a single profile, the Birail 2 Tool for two profiles or the Birail 3+ Tool for three or more profiles. Select all of the profile curves in order from one side to the other, and then hit Enter. Now select the two rail curves. As soon as the second rail curve is selected, Maya will build the surface. If the surface fails, it means that one or more of the profile end points was not snapped to the rail curves, which is required.

Here, we see the bonnet surface that was built from the curves in Step 2 G.

06 The finishing touches

Next up, you will need to convert the NURBS surfaces to polygon meshes and clean up the geometry. We used the General Tessellation Method so that we could set the number of isoparms in both the U and the V directions.

The first image displays all nine of the NURBS surfaces that we built to create the fender H. In the second image, the NURBS surfaces have been converted to polygon meshes I, the meshes have been combined into a single object and the mesh has been prepped for smoothing by running a bevel on all of the edge loops that define the creases in the fender and extra edges running next to all the borders to hold the shape when smoothed. The third image portrays the smoothed final mesh J.

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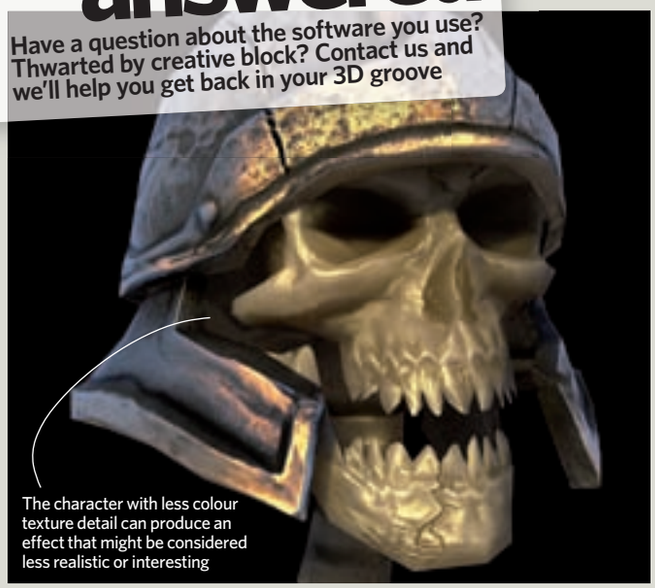


The character with less colour texture detail can produce an effect that might be considered less realistic or interesting

The final rendered character has the colour diffuse detail that matches and works together with the Normal map to simulate the highly detailed character

Character textures

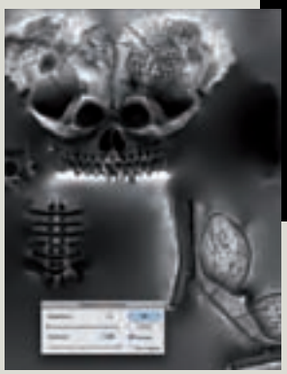
“How do I use rendered AO maps to help create character textures in Photoshop?”

Casper Ingrassia Brazil

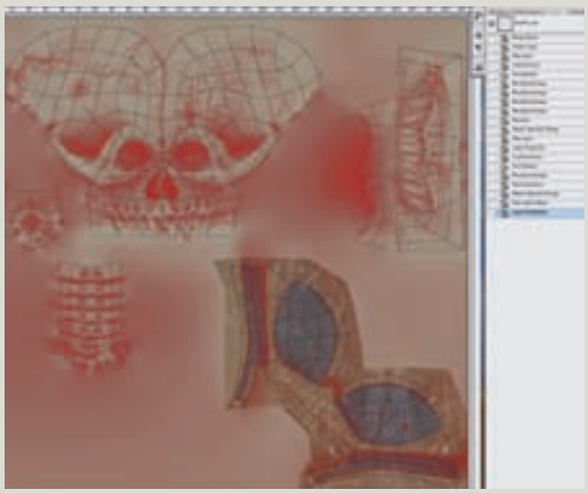
Ambient Occlusion is a shading method that helps to define the amount of lighting upon the surface detail of a model. The best AO maps look like a black-and-white photo of the surface detail and, if correctly rendered, match the Normal map exactly.

Use Softimage, modo, Blender or xNormal for the most detailed maps, as the AO maps rendered in the Maya, 3ds Max or ZBrush default renderers may not be detailed enough to use exclusively as a texture base. Avoid using AO maps derived from 2D images by using CrazyBump or ShaderMap Pro. Those maps don't accurately represent the full shading spectrum that is needed to generate a clean texture, and are often not very close to what the actual Ambient Occlusion would look like. One exception in ZBrush is its Cavity maps, which can be used to augment the fine surface detail in a rendered AO map from another software package.

There is an advantage to using flat base colours to allow for easier colour hue adjusting, which may be important when creating a character that looks good on a TV screen where colours may get more saturated and detail gets washed out compared to how they display on a computer screen.



01 Start by duplicating the Ambient Occlusion map into three copies, then adjust one map's Brightness/Contrast levels so the dark areas are clearly defined and light areas are evenly minimised. On another duplicate, use a Sharpen/Unsharp mask to clearly and evenly define the smaller details on the surface. Copy all three into Alpha channels to use as selection masks.



02 Create and fill a layer with a base colour. In a new layer labelled 'Darken', load the unaltered Ambient Occlusion as a mask. Fill with a dark colour or black, then change the layer effect to Darken or Multiply. Invert the selection and, in a new layer labelled 'Light', fill with a light colour or white then change the layer effect to Overlay. Adjust the Opacity to each so that nothing is blown out or totally dark (around 40-50%).

03 Working from large to small, use the Alpha channels to fill layers of hue and tone. Use Select/Color Range to isolate smaller detail to quickly brush in detail such as edge highlights, surface roughness and fill in deeper shadows. This masking can be used to quickly add different colour variations based on different surface materials.

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Outside looking in

“I’m modelling a close-up shot of a house, but I want to see through the glass. Are there any special considerations I should be aware of?”

Alison Draper Taunton, UK

Several times in the past few months this question has come up on different forums. In our experience using 3ds Max and a Sun System with Exposure Control, there are often dark windows or reflections, leaving it hard to see inside.

The concept we will go over to fix the problem can be applied to most applications, although the settings and specifics that we will talk about apply to 3ds Max and mental ray.

Our scene is set up as a room with four walls, a roof/floor and one double window with a glass pane. We are using mr Photographic Exposure and three different sets of lights to test intensity levels and visibility. We are using Physical Glass (Arch & Design material) for those using mental ray.

Keep in mind that modifying the Exposure Control settings will change the colour tint, contrast and saturation of the entire render. Colour and white balance is not necessarily the issue here. It is the amount of light inside compared to outside of the building.

Real-life lighting situations

Think of looking up at a building when the sun is shining or even on a cloudy day. Most of the time the windows are showing reflections or are dark. Night-time is a different story, as you can see in the windows clearly when lit.

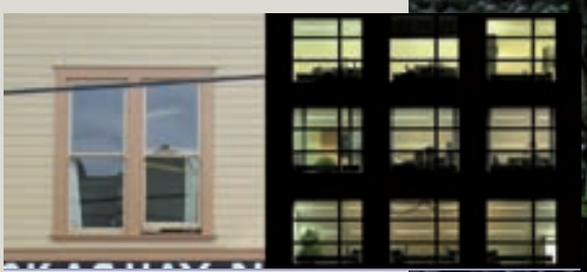
Showing values in 3D

When using a Sun System and Exposure Control, the problem is most prevalent. You can see the different values and renders below. This is with Exposure Control set to Outdoor Day Light Clear Sky in mr Photographic Exposure Control. The Sun System has a value of 1.0 throughout. The interior lights change with each render as noted. Even a value of 1,000 for the interior lights did not raise them enough to see inside clearly. Raising the interior lights to 19,000 makes the room dimly lit, while a value of 59,000 makes for a bright room.

Add reflections in Photoshop

Reflections are often added in with postproduction after using this method of interior visibility. We used a layer mask and set the blending mode to Overlay, although it can be set to one of many depending on your base layer and your reflection layer.

Spot Light Value: 1.0 | Spot Light Value: 19,000 | Spot Light Value: 59,000



Real-life lighting situations. If there is more light from the outside, the inside is generally darker and vice versa

Raising the interior light values most of them time rids the window of reflections, making it necessary to add them in postproduction

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Tree population

How do I quickly and simply populate an irregular surface (terrain, etc) with matte trees or other objects in CINEMA 4D without the MoGraph module?

J Shreiner Frankfurt, Germany

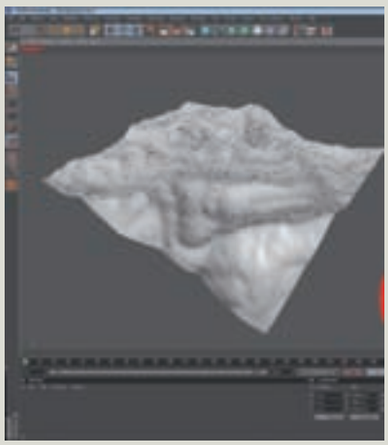
Architectural studios often buy only a basic bundle of CINEMA 4D and yet often find themselves in situations when they need to populate an irregular surface with lots of instances of a plant or another object quickly.

If you have got the optional MoGraph module or a specialised plug-in installed, it would be only a matter of a couple of clicks. The good news is that the time-consuming procedure of manually positioning numerous instances of an object over a terrain in a random manner and then adjusting the height of each of them (so that its base matches the height of the underlying polygon) can be automated without MoGraph or any plug-ins. There are a couple of different approaches and we are going to describe the simplest among them – one that doesn't even involve using Xpresso.

As the described procedure uses only some basic CINEMA 4D functions and tools, it can be used in any bundle or in any version of the program, down to 5.0 or so (see the boxout). An additional advantage of this method is that the density of the replicated objects is not dependent on the density of the underlying object's mesh grid or its polygon count. It is based on the Draw Freehand Spline tool and the Project and Duplicate functions. The Project function projects (ie moves) points of a spline to the surface of an object, while the Duplicate function has got a useful option of duplicating instances of an object along a spline. As you might have already guessed, the procedure consists of drawing an irregular spline at a certain distance above the irregular surface, then using the Project function to project the spline down to the surface and finally using the Duplicate command to duplicate the tree or other object as instances along the spline. In this example we'll use a 3D model of a tree instead of a matte plane, but the procedure is almost the same.

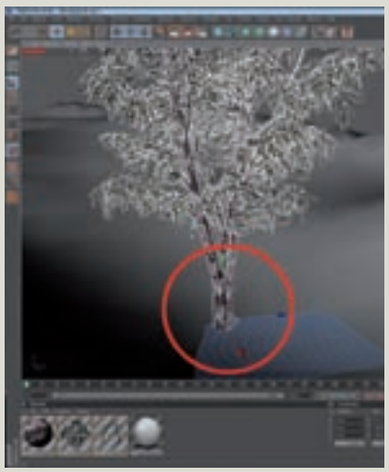
If using an older version...

In some of the older versions of CINEMA 4D, you might encounter a problem. If the Duplicate function in your CINEMA 4D misses the Along Spline option, in Step 3 duplicate the objects using the Linear option. In the Move window, set all values to 0 and hit Apply. All instances will appear in the same place. In the Object Manager, you'll see a new group containing all the instances. Move the original object inside the group, select the group and choose Functions>Arrange from the main menu. In the Arrange function settings, enter the name of the spline in the Search For field and click OK.



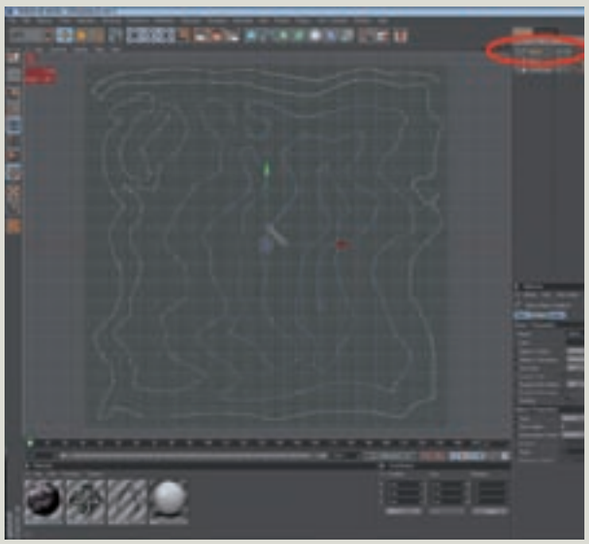
01 Prepare the scene

Create the target object, the irregular terrain surface in this case. If you need an accurate model, you'll probably import it from CAD software, otherwise you might import it from landscape-generating software or you can create it directly in CINEMA 4D by using the Landscape or Relief primitive or a deformation or a structure tool on a polygon surface. Only the terrain models, generated by the Displacement channel of the applied material, are not suitable for this purpose.



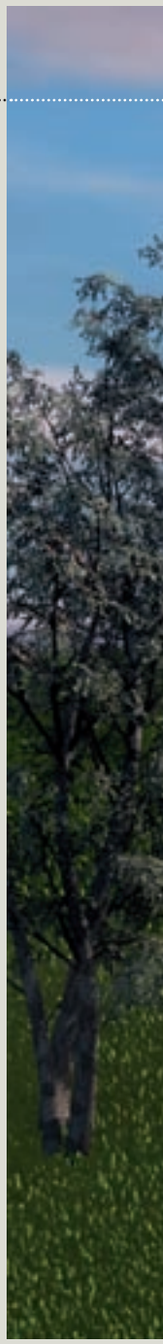
02 Adjust the object (tree)

Using a faked (matte) tree lets you create whole forests that will take up only a small amount of RAM and render fast, while they can look even more realistic if they're prepared properly. Unfortunately, all instances will look the same, while instances of a 3D tree can be rotated afterwards, thus achieving diversity. The important part here is that the local (object) axes are positioned only slightly above the base of the tree trunk.



03 Create the spline

Go to the top view, frame the terrain and select Objects> Create Spline>Freehand from the main menu, then start drawing a spline over the terrain. Make it as irregular and winding as possible, but take care that it doesn't exceed the borders of the terrain model underneath and that it doesn't self-intersect, which prevents getting coinciding instances later. When finished, go to the Object mode and drag the whole spline upwards over the terrain.



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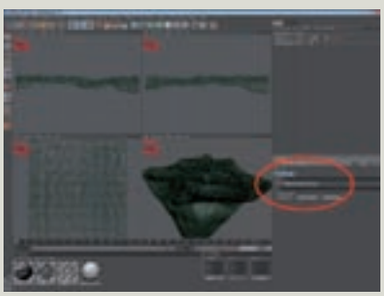
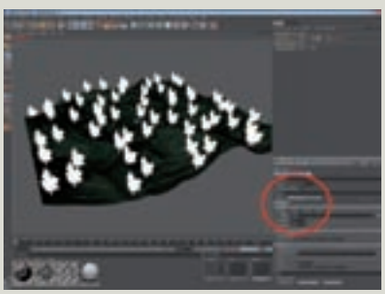


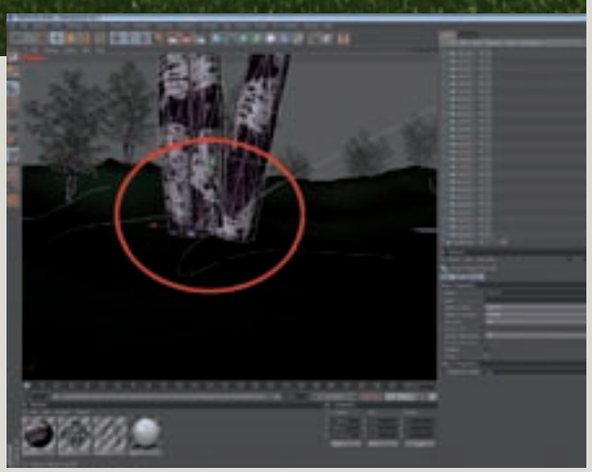
04 Project the spline points

So far, all of the points of the spline are coplanar, but not for long. Activate the top view with the spline selected and choose Structure>Edit Spline>Project from the main menu. In the Attribute Manager, make sure that Mode is set to View. That means the points will be projected in the direction of the currently active viewport. In this case, the points will be projected downwards towards the terrain.



05 Duplicate objects along the spline

In the Perspective view, check that the curve now fits over the terrain. Now select the tree object, and from the main menu choose Functions>Duplicate. In the Duplicate function settings, enter # of copies, set Mode to Along Spline and then drag the spline from the Object Manager to the Spline box. Next, uncheck the Enable Rotation checkbox. Hit the Apply button.



06 Adjust if necessary

The Project command projects only the spline points, not the segments. If the bases of some of the trees end up slightly above the surface, it would obviously pose a problem. One solution would be to increase the number of points of the spline and repeat the procedure. A fast and dirty alternative would be to select the group of instances and simply drag them slightly down using the mouse or the co-ordinate box.

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Stormy weather

"I want to create a scene that has some big waves in it for a stormy sea, but all the materials I use give very flat results. What's the best way to do this?"

Anita Gahan Bromley, Germany

Creating large waves in Vue has in the past been a rather hit-and-miss affair. The only way you could really change the look of water was through the Material Editor. You also had to edit a terrain and try and physically sculpt features such as waves. In the latest version of Vue, however, you are able to control the water surface with more accuracy, which gives the user many more ways of producing more realistic and authentic-looking water.

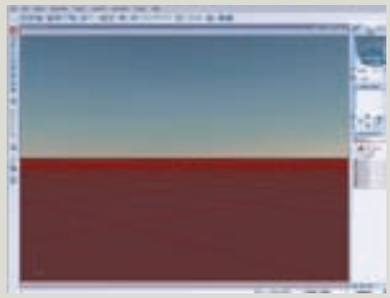
The Water Surface options allow the user to change the geometry of the surface. This includes controls such as the altitude of the water in relation to the ground plane. But the most interesting feature is the Displace Water Surface, which gives the most dramatic results. Without the use of displaced water the surface will appear flat, but when enabled the water changes and shows more depth. The water now appears to have waves and areas of shadow and reflection when interacted with light.

There is a slight catch to using this feature, though, and that is the number of polygons increases the more you increase the surface altitude. This is due to the water plane being turned into a procedural terrain, hence the increase in the polygon count.

Use Global Wave Control is the default setting. This allows the user to control the whole surface of the water by changing the overall agitation and adjusting the water to either calm or stormy.

For more accurate settings, and the one we have used in this tutorial, we have turned this option off. This opens up more in-depth wave control, such as the choppiness of the water, changing the shape of the waves. So setting a small value will produce soft round waves, while setting a higher value will produce sharper and choppier waves.

The new MetaWater materials give you even more choice in customising the water plane using the Water Surface editor. They also have better-looking water features, such as foam, etc.



01 Atmosphere and water

Open a new scene and choose Bisbee from the selection of atmospheres. We have deleted the default clouds and added the Dark Cumulus and Wild clouds from the Volumetric collection. Select the water plane from the left-hand column. This covers the entire floor area. Now select the ground layer and move it about two inches below the water plane. Change the ground colour to a dark colour. Now select the water plane and edit the material.

02 The materials have it

Now we need to change the material of the water. You can, of course, experiment with different materials. Select Wavy Shore from the Liquids MetaWaters collection. Now edit the water material by right-clicking the water sphere in the top right of the screen. Select the foam from wavy shore layers. Set the Bump Depth to 0.020 and leave the other settings as they are. Leave the water layer settings at default values.

03 Changing geometry

Finally, you need to change the water geometry. Double-click the water plane to bring up the water surface settings. Select Displaced water surface and set Surface altitude to 100cm. Be aware that the more you raise the Surface altitude, the higher the polygon count and therefore the more memory that is required. Set Wind direction to 45 degrees, Wave amount to 2.26, Height to 1.6364m, Wind intensity to 1.91, Agitation to 1 and Choppiness to 0.95.

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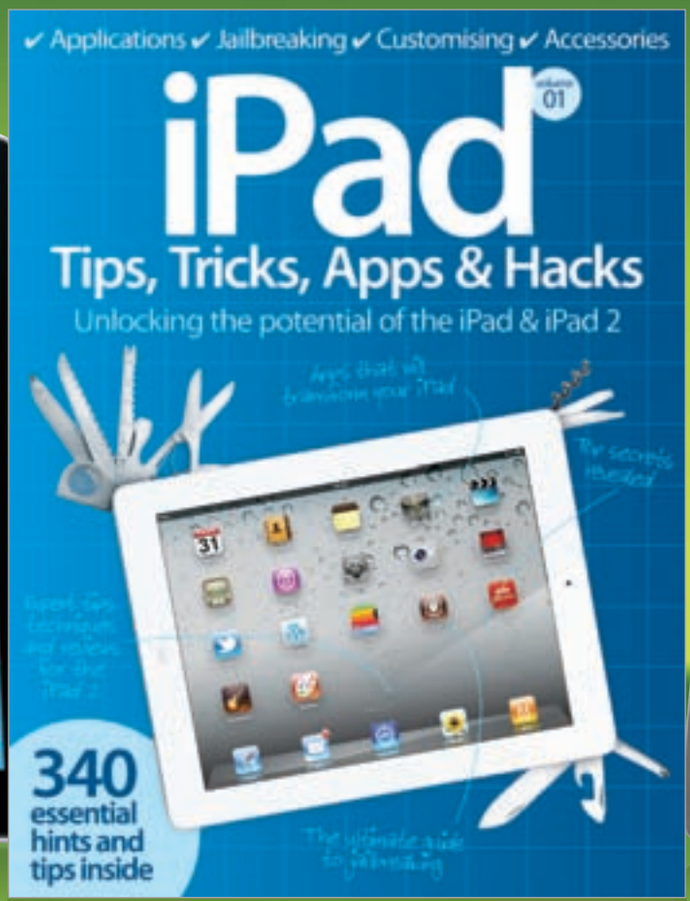

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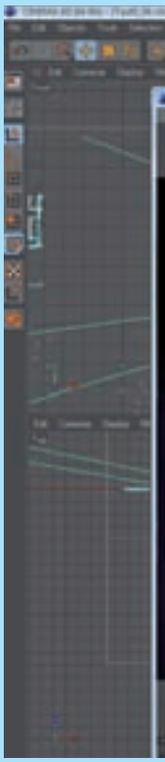
As far as geometry is concerned, this scene contains only two cubes and a single spline group. Everything else is done by using some of the new features in R11.5



CINEMA 4D R11.5 £2,699

For the last 17 years, CINEMA 4D has been successful at building itself a reputation of a powerful yet inexpensive and easy-to-use 3D application

Since its introduction in 1991 on the Amiga platform under the name of FastRay, the application has seen numerous updates and upgrades, especially over the last few years. The latest one upgrades the program from R11 to R11.5 and is, as always, packed with surprises, including an unpleasant one: the new price tag.

In spite of only a decimal release number increment, the list of new features and improvement is impressive. If you saw an advanced landscape generator like Vue in action, you probably wondered how it is possible for an application to render a scene containing tens or hundreds of millions of polygons in a 32-bit environment and taking up only a gigabyte or so of RAM. And you've probably been asking yourself why you can't do the same in CINEMA 4D. Well, now you can, thanks to new feature Render Instances. The ordinary CINEMA 4D instances can be now simply converted to Render Instances by ticking a box. That, coupled with the new Bucket Rendering feature, means that you don't have to fear any more of the dreadful out-of-memory messages while a scene containing a huge amount of instances of a complex object is being rendered.

> “In spite of only a decimal release number increment, the list of new features and improvement is impressive”

Speaking of landscape generators, another thing that you might find fascinating about them is the amount of close-up, tiny details of terrain, stones and similar elements, even extremely large ones that they are able to generate. The trick here is to use a procedural (fractal) shader to generate subpolygon displacement at render time. The Material Editor in CINEMA 4D has been offering the SPD channel for some time as well, but until now the calculation could use only a single processor or a core, considerably slowing down the rendering. The latest upgrade features an improved SPD algorithm that will happily use all the cores available in the system so that, for example, on an i7 system you can expect a theoretical 700 per cent increase in the calculation speed!

How often has it happened to you that after an all-night-long rendering of a complex scene you had found a significant fault on a part of the image and you had to

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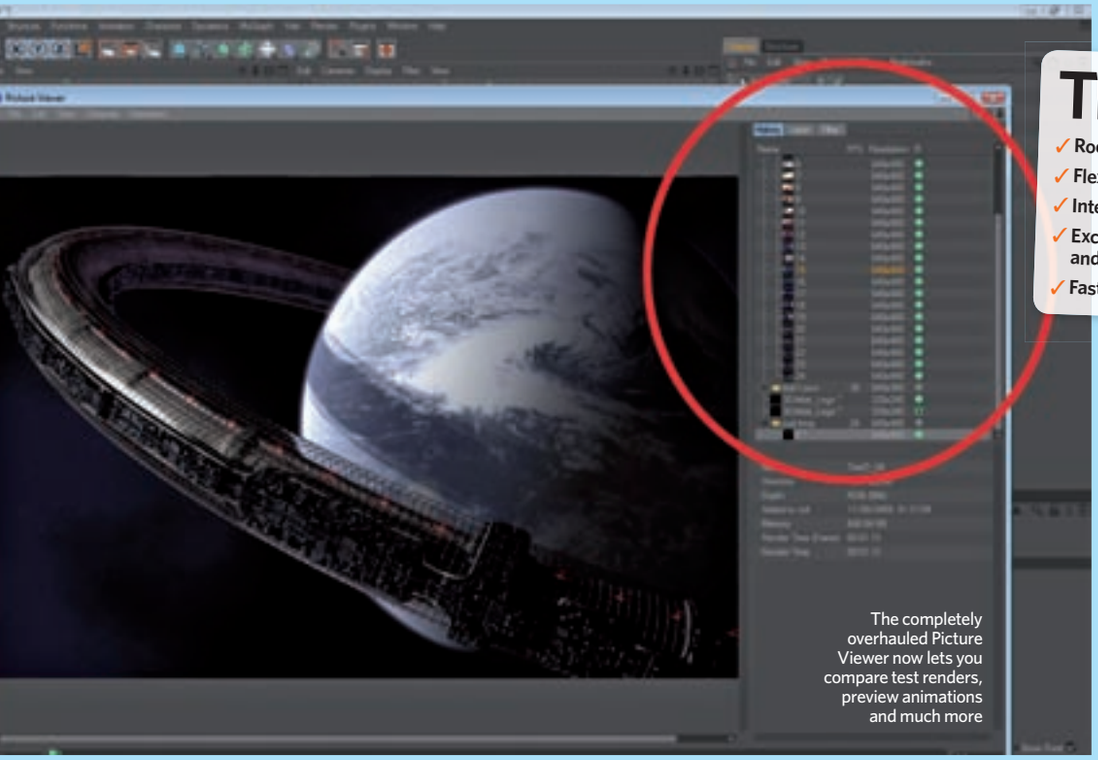

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The good & the bad

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- ✓ Fast and reliable renderer
- ✗ DOF and MB tools need a serious revamp
- ✗ Buggy texture-baking tool
- ✗ Old dynamics module is rusty and almost useless

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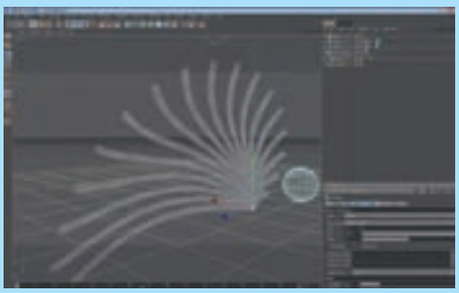
- Mac OS X 10.4 or higher
- 1,024MB RAM

OPTIMAL SYSTEM REQUIREMENTS (PC)

- Intel/AMD CPU with SSE2 support
- Windows 7, Vista or XP
- 1,024MB

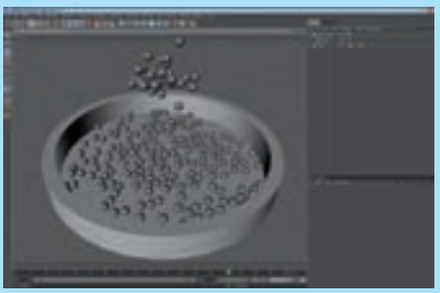


MoSpline

Simple and interactive creation of multiple splines with the new MoSpline tool

Subpoly displacement

Improved subpoly displacement lets users quickly create complex and detailed scenes out of a single plane



MoDynamics

Simple setup of multiple dynamic interactions using MoDynamics

rerender the whole image again? CINEMA 4D users can now forget about such nightmares, as the program's Render Settings feature a Render Region option. It does exactly what it says: instead of having to rerender the whole picture again, you can rerender only a small region of the image surface and then patch the faulty part using an image editor.

The MoGraph module is where the Maxon team had invested most of their efforts while preparing the release. We would need the space of a small book if we were to describe all the new features and all the possibilities they offer when integrated with some other functionalities in the program. MoDynamics is one of them, adding simple and quick-to-set-up dynamics functionality (collision detection and the like, using the Bullet engine) to the module. MoSpline is a special multispline generator, while the addition of PolyFX adds a simple object-shattering functionality to the module. Of course, all the new additions co-operate with other effectors or functions in the module or elsewhere in the application.

We could go on and on, describing the new Fullscreen Mode functionalities, the complete revamp of the Picture Viewer, the Connect command becoming finally useful, the environment variables for external plug-in directories, the increased samples for the Scene MB and more, but you get the idea. To conclude, with the latest release this 3D application has got even better and has got even closer to its main opponents on the market. We strongly suggest the upgrade even if you don't use motion graphics much, but check the pricing first, as this time you might be unpleasantly surprised.

Our verdict

Features	8/10
Ease of use	9/10
Quality of results	8/10
Value for money	7/10

> "An ideal 3D tool for a beginner, yet the program also lets a professional get under the hood"

Final Score 8/10

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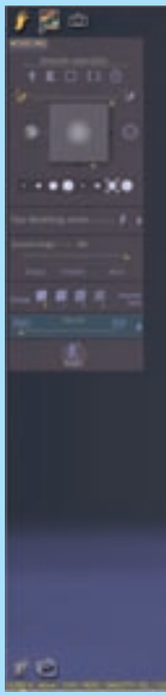

The renderer is simple to use, but its results are nothing to write home about

Argile 2 €89

A 3D sculptor with the simplicity of a paint package

Argile is a sculpting and painting package designed to mould and texture 3D objects for use in other 3D applications. The interface is virtually identical to the one on its stable mate from N-Sided, QUIDAM, and – as with the latest version of QUIDAM – Argile 2 includes a catalogue browser that allows you to instantly import textures and objects.

Like QUIDAM, Argile has no time for complex menu trees and technical tools. Instead, it offers up a front end that looks more like that of a sketch package than a 3D modeller. There are a few tool palettes dotted around the screen, each with large, friendly looking icons, and a single panel of tools down the left-hand side that helpfully changes depending on whether you are in the modelling, texturing or the rendering mode within Argile.

You can paint textures in 2D or 3D using a range of familiar paint tools

In short, Argile feels like an artist's tool rather than a technician's tool. It's not a complete solution – you can't create models from scratch in Argile and you can't animate (although the new version does streamline working with morphs, so you can produce lip-sync or facial animations for your characters). You can render your finished models, but the renderer isn't mental ray – it's good enough to give you a rough idea of what your model will look like in a real scene, but it won't give you anything you can use in a finished artwork.

Where Argile is excellent is in taking a model you've built in rough in a polygon modelling package and sculpting and texturing it into a complete and detailed object. Like ZBrush, Argile has tools for painting detail onto your object just as though you're sculpting clay. You can push and pull, carve and mould, crease and soften your object in real-time using brushes that can be adjusted quickly and easily from the panel on the left-hand side.

These tools aren't of the sophistication of those in ZBrush, but then they're not crowded into hundreds of tiny menus, either. Alpha control over sculpting brushes wouldn't have gone amiss, however, and it would have been useful to have a higher level of control over subdivision levels (Argile simply offers four buttons to switch your model between smoothing levels). Argile also doesn't have ZBrush's carefree attitude to polygon count, ie you can't work freely with a 3,000,000-polygon model.

UV texturing is always tricky but Argile handles it well, allowing you to map your objects in a range of ways. Version 2 includes a particularly intuitive tool for correcting texture distortions by simply

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Argile's interface is simple and friendly. You should be able to start using it in about a minute

The good & the bad

- ✓ Quick and easy to learn
- ✓ Powerful paint tools
- ✓ Neat UV-editing tool
- ✗ Sculpting tools are a little simplistic
- ✗ High polygon counts slow the package down
- ✗ Renderer is pointless

Essential info

www.n-sided.com
89 Euros

OPERATING SYSTEMS
- Windows 98 OSR2, 2000, XP or Vista
- Mac OS X 10.4 or more

OPTIMAL SYSTEM REQUIREMENTS (MAC)
- Power PC G4 or Intel
- 512MB RAM

OPTIMAL SYSTEM REQUIREMENTS (PC)
- Pentium II 500MHz or better
- 512MB RAM

Version 2 introduces the catalogue system for instantly adding lights, textures and props to your scene

> "UV texturing is always tricky but Argile handles it well"

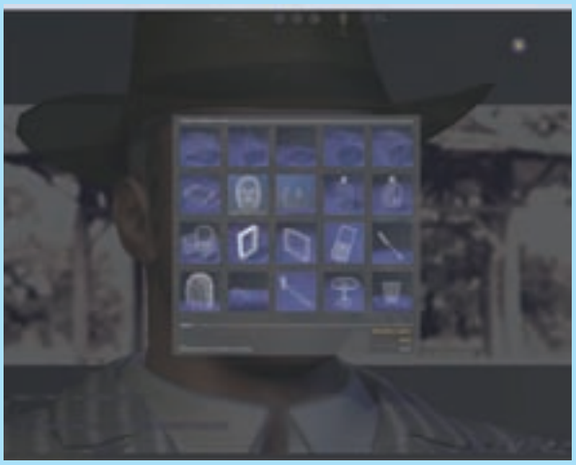
dragging on your model to move the UV co-ordinates around in real-time.

With your object created, you can begin to add materials. Create Bump, Diffuse, Normal and Transparency maps independently, using similar intuitive paint tools (completely rewritten for version 2) to those you use to mould the object in the first place.

The paint brushes are more sophisticated than the sculpting brushes, however, and do include Photoshop-style custom brushes with simple controls and the useful ability to paint strokes in 2D (flat onto the camera) or 3D (around the object). Clone, Fill, Stamp and Tiling tools are also provided. In addition, if you prefer another 2D texture painter like Photoshop or The GIMP, you can now load it up within Argile and work with ease between the two with visual updates to the 3D object every time you hit Save.

Overall, Argile reduces the complexity of 3D sculpting to the level of a sketching package. It does this with well-constructed, friendly tools, but compromises on the detail of some of those tools.

If you already know your way around ZBrush, Mudbox and BodyPaint, you're not likely to find anything new here. However, if you're approaching 3D artwork from the direction of being a 2D artist or if you want a quick and easy way to add detail to your models without all that tedious mucking about with polygon modelling, Argile is worth a look.



Load
Work in Argile begins with loading in an already-made model. The package ships with a few but you can, of course, use your own

Our verdict

Features	7/10
Ease of use	8/10
Quality of results	8/10
Value for money	9/10

> "Cheap and easy to use, but lacking in high-level features"

Final Score 8/10

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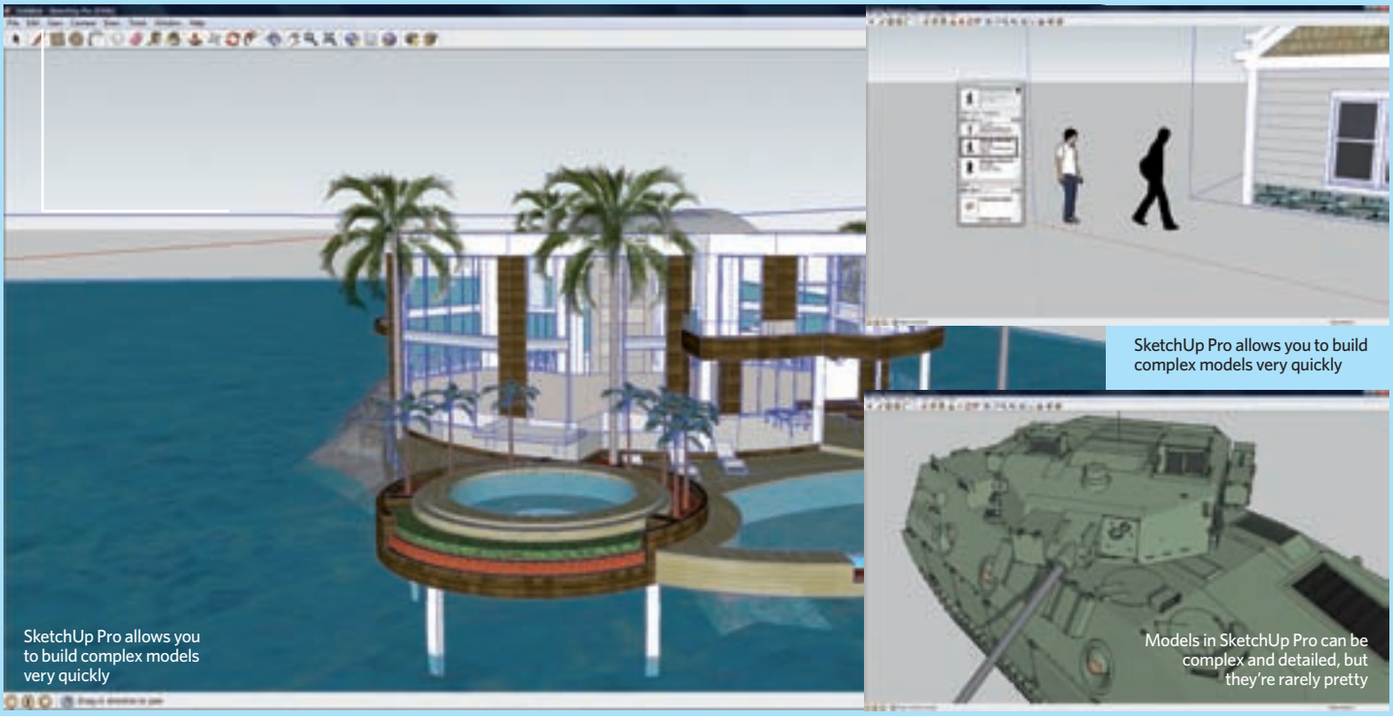
Google SketchUp Pro 7 £341

There's a wealth of online models and it's quick to use until it comes to exporting objects. That's when the bill for the Pro version arrives



SketchUp Pro allows you to build complex models very quickly

SketchUp Pro allows you to build complex models very quickly

Models in SketchUp Pro can be complex and detailed, but they're rarely pretty

Google SketchUp has never been taken particularly seriously by professional 3D artists. It's a free 3D modeller with innovative if basic tools, allowing you to quickly rough out shapes and extrude them into three dimensions.

Because it's free and owned by Google, it's developing a massive online library of free 3D models submitted by users. These would make a great starting point for any artist producing more advanced works if it weren't for SketchUp's downsides. These are twofold: the first is that rendering is restricted to producing a coloured line drawing that gives viewers the instant impression that SketchUp Pro isn't capable of creating decent 3D content. The second downside is more serious. It uses its own proprietary 3D files that aren't compatible with anything else, so whatever is made in SketchUp stays in SketchUp. Unless, that is, you're willing to fork out £341 for SketchUp Pro.

It's a powerful set of tools for building 3D objects quickly and accurately. Simply click and drag to draw an outline on the ground, then drag again to extrude it into a 3D shape. Select any of the faces and you can draw them out to make your object more complex.

Adding detail to your drawing is easy. The Components panel allows you to instantly drop in props. This can include furniture items, cars, streetlights, etc, but also 2D placards of people to populate your scenes. What's more, everything appears at the correct scale and attached to the ground so it can be dragged into place easily.

There are a few of these components that are preloaded, but the real power of the system is that the panel allows you to directly search the Google 3D Warehouse online model library where there are literally thousands of models waiting to be added with a single click.

In addition, components aren't just dumb 3D objects. If you import a door or window and drag it towards a wall, it can orientate and stick to the wall and cut a hole to fit in. All of this is interactive; if you move the door at a later stage or resize it, the hole will also move.

Combine that kind of speed and agility with the option of exporting your finished models to a more artistic package when it's done (SketchUp Pro comes bundled with Style Builder for creating sketchy, architectural-style drawings, but nothing you would use for serious artwork), and if you're designing buildings then you've got something worth looking at.

If you're more concerned with organic shapes, SketchUp Pro isn't as helpful. There really aren't the tools there for complex curves and sculptural modelling.

> "It's a powerful set of tools for building 3D objects quickly and accurately"

Our verdict

Features of site	6/10
Ease of use	8/10
Quality of models	7/10
Value for money	6/10

> "A great tool for architects, but not so great for artists"

Final 7/10

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AKVIS ArtWork 3.0 £55

Transforming photos instantly

Photorealism is great, and modern renderers can produce some impressive results. However, they're not always what you want. Sometimes, it's good to be able to produce something a little more rough and ready – something with a more painterly appearance.

You can make a stab at such effects in Photoshop, but its filters are a little synthetic. You can try using cell shaders in your 3D application, but these often look too geometric to give a real hand-drawn effect.

AKVIS is an attempt to correct this. Working either as a Photoshop plug-in or as a standalone package, it will turn any photo or 3D render into a cartoon, oil painting or sketch.

AKVIS works particularly well on 3D renders (which tend to be less cluttered and more pure than photos) and offers control over the detail, colours and sensitivity of the sketch effect. You can even save presets when you find an effect you like.

The controls are enough to give you a variation that will work with whatever your shot contains, but they don't offer much opportunity to build custom drawing styles – you're pretty much stuck with the three provided (Oils, Comics and Pen & Ink).

That said, the results are effective, giving your work a real impression of having been drawn by hand, although rendering on a large image can be slow.

AKVIS shows a preview of your effect as you work

AKVIS works as a plug-in or as a standalone package

It would have been useful for AKVIS to have contained an option for batch processing numbered animation frames – if you want to do that you'll have to create a Photoshop Macro – but the tool is easy to pick up and worked well on every image we tested.

www.akvis.com

Our verdict

Features	7/10
Ease of use	8/10
Quality of results	8/10
Value for money	8/10

"Limited in its styles, but what's there is of high quality"

Final 8/10

Anatorium P1 £548

A complete set of accurate body parts

The human body is one of the most complex pieces of kit you're ever likely to come across in 3D modelling. Just creating a realistic face is a challenge. Modelling what's inside with any accuracy is almost impossible.

That's why whenever you're called to produce anatomical images, the chances are that you'll want to buy in models rather than construct them yourself. That's where Anatorium 3D's P1 comes in.

P1 is two complete human figures (one male and one female) in a range of 3D formats (3DS and OBJ are supported as well as FBX and DFX). And when we say complete, that means skin, muscles, skeleton, internal organs, blood vessels, ligaments and nervous system are all constructed as separate layers, ready to be loaded in as you need them.

Even the interior of the human brain is modelled in exceptional detail

The models are highly accurate (based on scanned data from real humans) and textures are included, although they'll need subdividing if you want to do real close-ups. Because of the complexity of the subject, there isn't just one model in the set – there are about 300 separate files, which together make up about 3,600 model elements. These can be loaded into your 3D application and combined as you need them. The models are organised into helpful folders, and they are aligned so that when you import them they appear in the right places (so that the knee bone's connected to the thigh bone, etc).

However, this is still a massive model with lots of pieces and you need to know your way around the body to know which files you need to load for the shot you want. If you're after something slightly simpler, you can get the A1 version for 99 euros.

www.3danatomy.com

Our verdict

Features	7/10
Ease of use	6/10
Quality of results	8/10
Value for money	5/10

"A full set of highly accurate human body parts"

Final Score 7/10

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CHARACTER DESIGNS
Obligatory tattooed, weapon-wielding sci-fi babe? Check

Extreme Worlds £14.99

Sci-fi concept art advice for digital and 3D artists

This book by Francis Tsai bills itself as the complete guide to drawing and painting sci-fi art. The subheading is a bit of a misnomer – the author touches on digital art and 3D design and even offers some advice on the best way to produce concept art that you know is going to be modelled and rendered. While much of the focus is on creating and representing classic sci-fi tropes, instructions are given for both traditional and digital artists, and a variety of 3D programs are recommended even to concept artists who don't have to work with them, as the author points out their advantages and opines that "creating and lighting a simple 3D model can provide a basis for a more painterly 2D illustration."

Tsai himself is a pretty well-known concept artist and has worked on some big-name games and movies, notably *Tomb Raider: Anniversary* and *Teenage Mutant Ninja Turtles*. His speciality is sci-fi, and in this book he's given free rein to explore his favourite aspects of it: gun-toting cyberpunk heroines, goo-spewing aliens, anime-style mecha, and even the denizens and environments for an entire space opera of *Star Wars*-esque proportions.

Tutorials assume that you've got a reasonable grasp of the basics – you do actually have to know how to hold a pencil before you begin – so the overview section at the front of the book skims lightly over such niceties as essential tools and techniques. Some are flagged up but the inference is that you already have a medium that you're comfortable working in. Instead, the book concentrates on key things you need for sci-fi design – a good understanding of shapes and geometry, perspective, colour and tonal values. The Demos section takes up a reasonably sized chunk of the book and looks at archetypes like extraterrestrials, humanoids, robots and spaceships. But the Space Opera section is where it gets really interesting and provides a fascinating read, with heroes, villains, side characters and space environments all lovingly drawn and furnished with a deep back story. This really shows concept artists how to engage with things like a character's given circumstances or the history behind a location or object, enabling you to understand how to make a range of designs – painted, digitally drawn or 3D – hang together as a conceptual whole.

info

AUTHOR
● Francis Tsai

PRICE
● £14.99

PUBLISHER
● Impact

ISBN NUMBER
● 978-1-60061-341-8

ROBOTS
The robot-based tutorials that appear in the pages of *Extreme Worlds* require a good understanding of shapes and lighting, which makes these walkthroughs ideal for 3D concept artists

ENVIRONMENTS
The design of clean and architecturally accurate interiors is yet another useful tutorial for concept artists working in 3D that can be found within this eagerly awaited book

SPACESHIPS
Once again, shuttle and fighter designs that use clear lines and metallic panels are a great resource for 3D artists, and just one of the many helpful areas that appear throughout this tome

PROCESS
Also within *Extreme Worlds*, learn how Francis Tsai works up concept designs from references as well as his own imagination and then cleans them up for animators to work with

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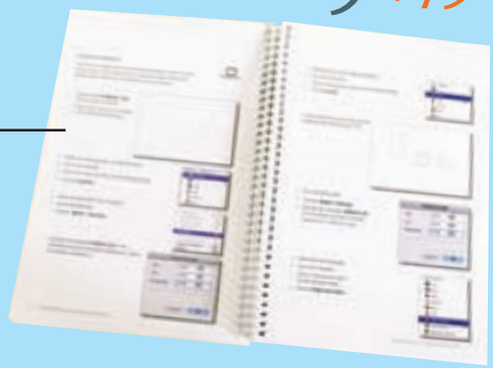
3D Modeling in Vectorworks 2009 $75

A beginner's guide to architectural modelling

This softback, spiral-bound little book isn't one for the book shelves – it's one for the desks of those just getting started with 3D architectural modelling. It's designed to be used and abused, and to bear up patiently beneath such treatment. The best thing to compare it to is a school textbook and, indeed, this isn't a misplaced analogy. Now, we know that this is a book for beginners; it needs to include simple and achievable projects and present them in a way that's easy to grasp and logical to follow along with. But architectural modelling is a science full of awesome things – skyscrapers, domes, even floating hotels. So we didn't find it terribly inspiring when we discovered that the hands-on project that takes up a good proportion of this book is in fact a step-by-step bus stop. You get to design its attendant litter bin and bollard, too; curb your excitement.



BEGINNER'S GUIDE
This book starts with the basics, teaching you how to create extrusions

PATHS
One of the many things you can learn via this book is how to use paths in Vectorworks 2009 in order to create a simple three-dimensional fence post design

SWEEPS
Learn some handy short cuts such as Sweeps, which allow you to turn two-dimensional shapes into three-dimensional ones and adjust their angles accordingly

info

AUTHORS
● Jonathan Pickup

PRICE
● $75

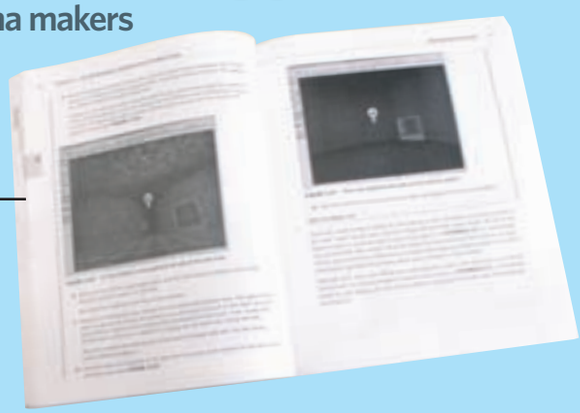
PUBLISHER
● Nemetschek

WEBSITE
● www.nemetschek.net

Mastering Unreal Technology $49.99

A headshot of engine know-how for modders and Machinima makers

Ah, the Unreal 3 game engine. Beloved of development studios, modders and Machinima makers, it's given us some top games, fantastic mods (player-generated game scenarios) and a slew of home-brew cut-scenes of variable merit. There's something wonderfully old-school and redolent of bedroom programming about people making a decently rendered variant of *Red Dwarf* set in *EVE Online* using little more than Unreal 3 and CrazyTalk, so working with game engines has a certain cultural cachet in online communities. Machinima – the art of 3D animation using game source code, most notably the Unreal 3 and Half-Life engines – has gained in popularity and spawned a whole new demographic of 3D hobbyists and professionals. This book ensures that the content with which they fill YouTube has a working grasp of the basics. Older 3D users can buy a copy to ensure they look cool in front of the studio's latest interns.



MODS
Get to grips with the Unreal 3 engine by designing your own game level based on *Unreal Tournament 3*

MATERIALS
For those who come to 3D out of the modding scene, the Unreal 3 engine is often their first experience of animation. Here, learn the difference between textures and materials

MATINEE
Discover the basics of animation and cut-scenes with *Mastering Unreal Technology* and learn how they are integrated into your level designs

info

AUTHOR
● Jason Busby, Zak Parrish, Jeff Wilson

PRICE
● $49.99 US

PUBLISHER
● Sams Publishing

ISBN NUMBER
● 978-0-672-32991-3

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Not just for dummies

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Android for Beginners
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All the essential apps
Setting up your device
Learn about Gmail & Maps
Full guide to Android Market
iPad for Beginners

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workspace 3D

Inside guide to industry news, studios, expert opinion and education

104 Insider interview

Peter Eriksson

Each issue we interview an industry professional. In this issue, the art director of top Swedish advertising agency Valentin&Byhr reveals all

098 News

Industry news

The post-SIGGRAPH announcements and all of the other news in the 3D world are unveiled right here for your delectation

100 Studio Access

Unity

It's the games system of choice for 3D developers working on Wii and iPod/iPhone games as well as the PC. We take a look at the studio producing it

inside

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University of Cumbria

We go back to the University of Cumbria to have a look at the work of the final-year students and find out what has happened to their Animation course

Steam Traveler
Andrew Averkin
Personal portfolio site
www.3dartistonline.com/user/andrew

Peter Eriksson, art director at Valentin&Bhyr, on what he'd change in 3D apps given the chance. **Page 104**

> In 3D I'd like to get rid of UV maps and not have to worry about poly flow

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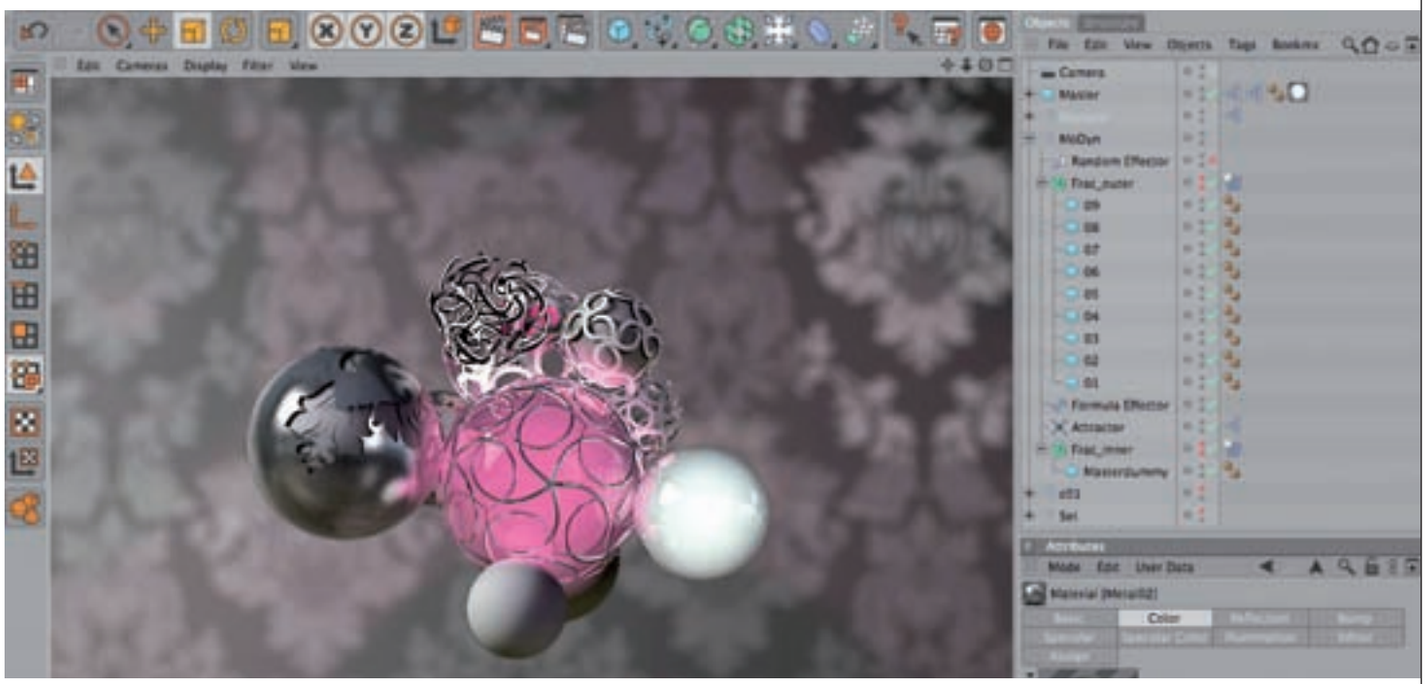
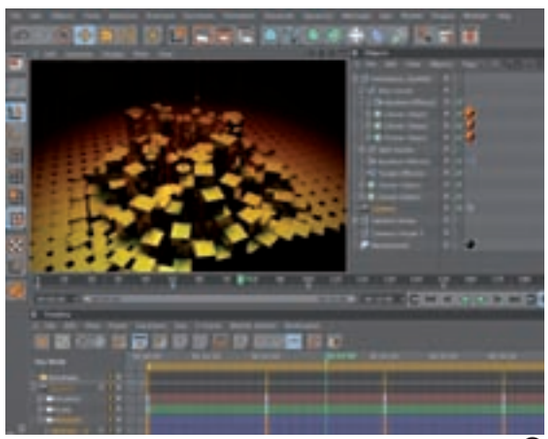


CINEMA 4D product line enhanced

The industry professional's choice comes in two new flavours



A New features and toolsets are included in the comprehensive upgrade

B Animation is one of the big areas to get an overhaul so complex movement is easier

C The Broadcast Edition is a full bundle for motion graphics professionals

D CINEMA 4D R11.5 offers enhancements to improve productivity and workflow

CINEMA 4D, the acclaimed 3D modelling, painting, animation and rendering software, is now available in two new products.

Maxon has announced the release of CINEMA 4D R11.5 and CINEMA 4D Broadcast Edition. CINEMA 4D R11.5 is a comprehensive upgrade to its predecessor, offering workflow and productivity improvements. The release also features an updated version of the motion graphics module, MoGraph 2.

R11.5 has full support for Mac OS X Snow Leopard and Windows 7, a fresh-tooled and accelerated render engine and an all-new Picture Viewer. The improved rendering performance helps 3D artists render quicker and more efficiently, adding new features including render instancing and bucket rendering. The Picture Viewer now offers tools for reviewing and editing images.

MoGraph 2 features MoDynamics for optimised physics simulations, PolyFX for explosion effects and MoSpline for cloning existing splines.

CINEMA 4D Broadcast Edition is an all-new bundle for broadcast design professionals. It is designed to be the ultimate 3D motion graphics toolkit and also includes the upgraded MoGraph 2 as the R11.5 version. The Broadcast Edition is based around the R11.5 release, which means that it has all the same improvements that the update brings. It also bundles a Broadcast Extension Kit, which has hundreds of preset objects and scenes, with camera and lighting setups, royalty-free sounds and background clips. The resources are aimed to provide common on-air requirements for impactive motion graphics.

CINEMA 4D is the professional's choice, with industry experts quick to show their support for the latest releases. Chris and Trish Meyer, motion graphics and design effects experts, say: "CINEMA 4D has clearly emerged as the first choice for creating 3D motion graphics for broadcast design. The new Broadcast Edition – with the fantastic MoGraph module plus the addition of hundreds of presets – is perfect for both beginner and experienced motion graphics artists looking to add a powerful, flexible, targeted 3D program to their toolset."

Both products are available now from Maxon at **www.maxon.net**, where there is also further information on both releases.

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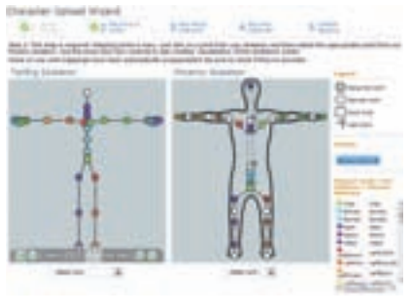
Simpler character animation for game developers

Mixamo and Emergent Game Technologies partner up



E

Mixamo and Emergent Game Technologies have joined forces to offer game developers cost-effective and high-quality 3D character animation opportunities. Users of Gamebryo LightSpeed can now benefit from seamless integration of character animation when using Mixamo's online service in their workflow.

LightSpeed users can purchase Mixamo's new animation services to gain access to a new method for directing, customising and integrating animation. In turn, this will reduce production time and cost. The vice president of partners at Emergent Game Technologies agrees that the partnership with Mixamo will be of benefit to customers, saying: "We are delighted to have Mixamo join our partners program. Mixamo's collection of production-quality customisable motions and entirely new approach to animation techniques gives LightSpeed users another option for adding great character animation to their games."

Mixamo gives animators the ability to browse through a large collection of 3D character motions, which can then be customised using sliders and applied to a character rig in real-time. The finished animation can then be downloaded – as FBX, BVH and Collada formats – for seamless integration into LightSpeed. Stefano Corazza, co-founder and CTO of Mixamo, says: "Emergent and Mixamo share a similar goal to provide powerful time-saving solutions to game developers. Our collaborative efforts provide LightSpeed customers with a seamless workflow, improving their overall productivity and allowing more time for creative control."

For more information on Mixamo, pay a visit to www.mixamo.com. For Emergent Game Technologies and Gamebryo LightSpeed, see www.emergent.net. You can also follow Mixamo's activities on Twitter at www.twitter.com/Mixamo.

> "Emergent and Mixamo share a goal to"

E Mixamo's motions can be downloaded for use in LightSpeed

F The Mixamo homepage is just one source of information for LightSpeed

3dtune's new showcase website

Students and filmmakers can show off their latest 3D animation

3dtune has launched a new website that enables filmmakers to upload 3D animation from anywhere in the world. The uploaded videos can be rated by visitors for valuable feedback on projects.

Contributors include students from the Vancouver Film School among others, so it's a great way of checking out up-and-coming talent from the next generation of 3D artists.

On the website, users can view video clips, browse through categories (such as Highest Rated and Most Viewed) or select a video channel (Action, Comedy, Drama, etc). After viewing, images can be scored and commented on, and it is possible to email the creator if you like their work.

Filmmakers can create an account, create blogs, join groups and everything expected of a social-networking endeavour. Check it out now at www.3dtune.com.

Learn VFX in the evenings

Escape Studios offers flexible learning time for its popular course

Escape Studios in London is now offering its popular VFX course as an evening class. The course, which accompanies its Maya and Compositing evening programs, will offer the same curriculum as the full-time courses, which makes it a great option for potential 3D artists to train at the same time as holding down employment.

The VFX course has had many graduates go on to successful careers in the CG industry.

The website has further information, as well as exclusive offers, including discounts when booking both the VFX and Maya evening courses together. See www.escape.com.

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Studio Access

Unity game development

If you've ever fancied producing 3D videogames, chances are you will have stumbled across Unity. The company produces an engine that can be used to create 3D titles on many gaming platforms. David Crookes gives you the lowdown on the tools and the company

unity

Unity Technologies was set up in 2005 to develop a 3D engine for use in the gaming industry

http://unity3d.com/

Description The Unity development platform enables console-quality games to be produced for the web, the Nintendo Wii and, more recently, the iPhone. Available for the PC and the Mac, it comes in two flavours – indie and pro – with an additional program for creating iPhone games

Country Denmark and USA

Software used Maya, 3ds Max, CINEMA 4D, Cheetah3D, Blender, Photoshop and QuickTime are all supported by Unity

Key people

Joachim Ante

David Helgason

Nicholas Francis
User experience

Unity, according to the people who work there, is a place of intellectual Darwinism where ideas are challenged and the best win in a fair fight. It's also a company with a trampoline in the back yard and where *Rock Band* is played by workers until 3am. But Unity takes its work seriously – it provides tools to thousands of game developers and creative visualisation professionals, allowing them to make the best 3D web content.

"Ours is the classic story of a bunch of geeks who got together to make games," says co-founder Nicholas Francis. "When we were starting out we had a bunch of ideas, and spent three years producing a Mac-only ball-rolling game called *GooBall*. We ran into numerous problems but, like all classic geeks, we didn't solve our problems but instead made tools to solve them for us. So we also ended up with a really great engine and some of the best integrated editing tools ever seen."

GooBall was released in March 2005 and, just three months later, the first Unity engine (version 1.0.1) was released. The company continued to work on the engine, and up until November 2006 they were releasing updates to the public roughly every three months. Version 2.0 was released in October 2007 but it was Unity 2.5 in March of this year that caught people's attention, since it added support for development in Windows.

"We began to really enjoy producing the tools and tech more than the games themselves, so we set ourselves a new goal," says Francis. "We wanted to make game development open to anyone and that's when we set the basic pricing model of Unity. We wanted to have a price that was comparable to other typical game tools like Photoshop and 3ds Max, but we also wanted to produce an indie version with a price point that would let anyone use it.

"The idea was that you could use the indie version to bootstrap your game studio dream, and once the first game had shipped you could use that first lot of money to upgrade to Pro and release a more advanced version."

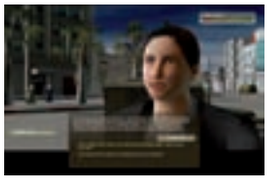
So far, the team has spent six years working on Unity, in which time game developers and educational institutions such as Smashing Ideas, Trigger, Freeverse, Shockwave.com and NASA Jet Propulsion Laboratory have made use of it. And yet they feel that they are only at the beginning. "One thing we're always trying to improve are the

> "Like all geeks, we didn't solve our problems but made tools to solve them for us"

A

portfolio highlights

Here's a quick look at some of the projects created with the Unity engine



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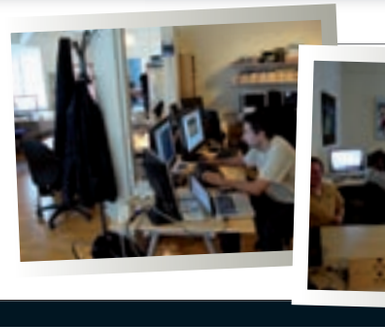
2009 *Touch KO*, iPhone, iPod Touch
2009 *Puzzle Bloom*, web
2009 *Paradise Paintball*, Facebook
2009 *Cartoon Network Universe: FusionFall*, web
2009 *Zombieville USA*, iPhone, iPod Touch
2008 *Off-Road Velociraptor Safari*, web
2008 *WolfQuest*, Windows, Mac
2008 *MegaPixel*, Windows, Mac
2007 *Global Conflicts: Palestine*, Windows, Mac
2005 *GooBall*, Mac



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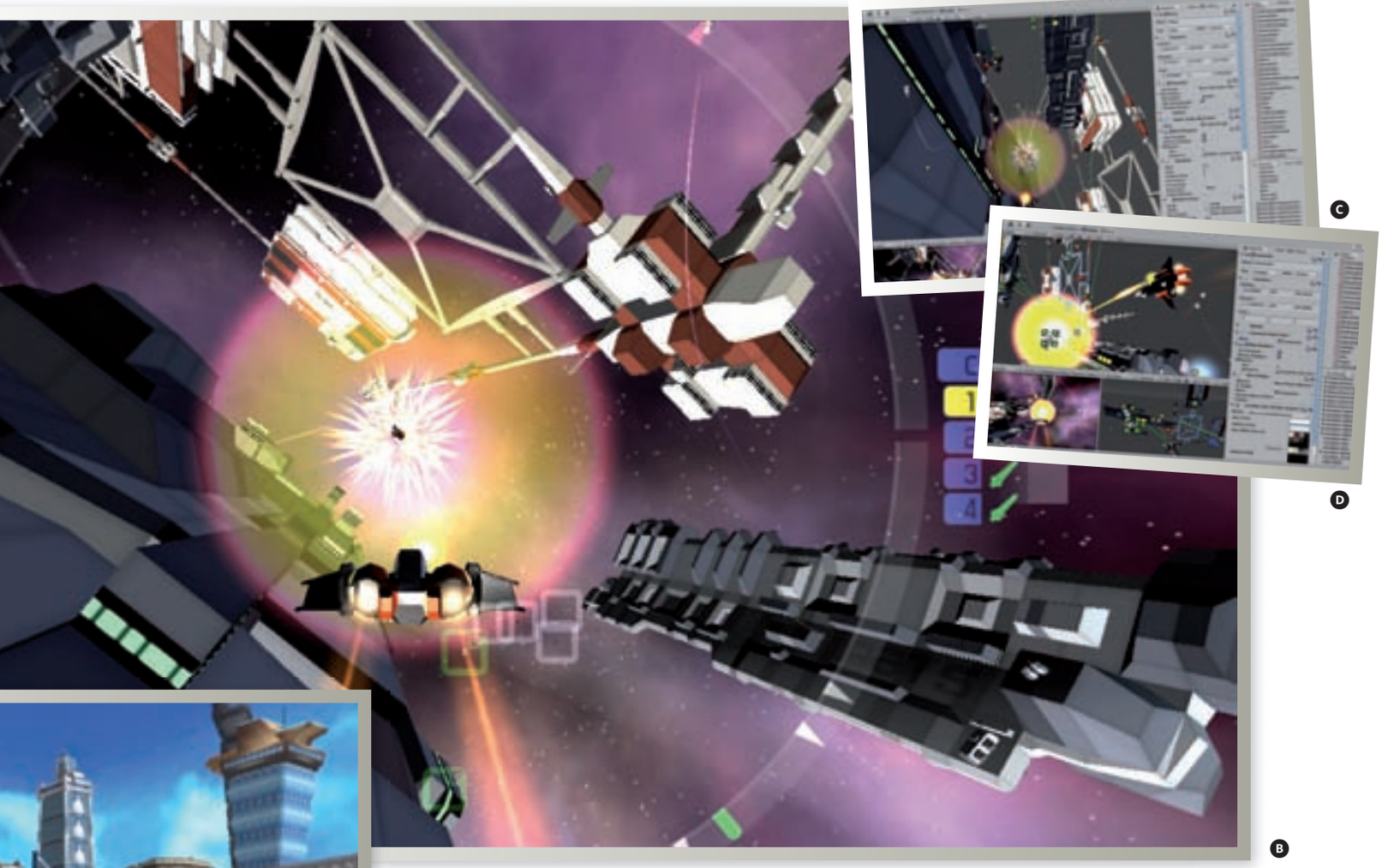
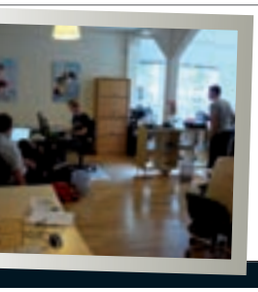


graphics," says Joachim Ante, the CTO and co-founder of Unity. "That's really a never-ending race. But boy, it's a fun race with lovely scenery along the way, so we're not complaining."

The Unity developers confess that the process of producing Unity is a slow one. They spend hours debating the tiniest details of how a feature should work, how the UI for the tools should be and how an API should be structured. "But I think the main reason why Unity is good is basically our passion for it," says Ante.

In-house artist Ethan Vosburgh agrees. "Unity is great for artists mainly because of its automatic updating of assets, including textures, models and sounds when saved from another application," he adds. "This allows for extremely fast iteration times because the artist can quickly jump back and forth between their content-creation app and Unity. Unity allows you to do this even while the game is running. Unity also has the advantage of being able to save assets in their native format so they don't have to be manually exported or imported."

Such is the success of Unity, the team working on it has grown. Just three people worked on the engine at the start but now there are 30. Recently, iPhone publishing abilities have been added but more are due. "Right now we've got Wii publishing, but we're working on the other major console platforms," says Wii programmer Tomas Dirvanauskas. "We want to have one code base, so you could make a game for the Xbox on an engine that has so many to-the-metal optimisations to be fast enough to run on your mobile phone. We also want to do everything we can to ease people's porting efforts, so it's easy to take your Unity game from a high-end PC experience and get it on some small device."



A *FusionFall* is a fully 3D world in which Cartoon Network characters defend against an alien invasion

B *Phoenix Final* has been produced by award-winning indie game developer Neil Carter

C Neil, who also teaches 3D, used Cheetah3D for all the main modelling. He used form-Z for more refined parts of the modelling

D The textures and other visual elements were produced in Photoshop CS

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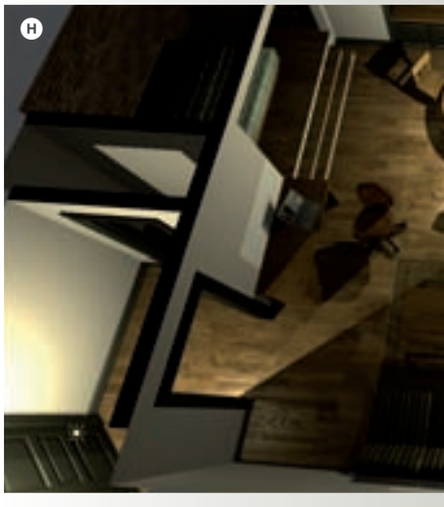


> We've made a tool that has done for games development what DV cameras did for the indie film scene

Unity games work within a web browser, which Francis says is great for smaller studios. "It actually helps them get content out there," he says. "I think the Blurst.com games are a great showcase of this – *Raptor Safari* is really focused on snack-size games. It's a good feeling – we've made a tool that has done for games development what DV cameras did for the indie film scene. How could we not take this and run with it?"

Getting to grips with Unity

Creating 3D art is, quite naturally, an absolute joy, but many like to go that one step further and see their work appear in a game. Although there are many game engines around from Blender to Director and Torque, one of the most popular is Unity Technologies' Unity. It's a multiplatform game development tool that takes away much of the graft associated with games production.

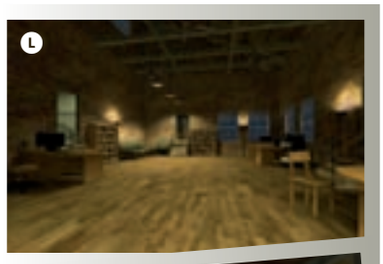
It makes the integrated graphical environment a primary way of creating a game. It works with familiar 3D applications, including Maya, Blender, CINEMA 4D and Cheetah3D, and allows you to automatically import assets, even working out when an asset has been updated. Furthermore, Unity supports render to texture, Parallax mapping, full-screen postprocessing effects, Bump mapping, dynamic shadows and Reflection mapping.

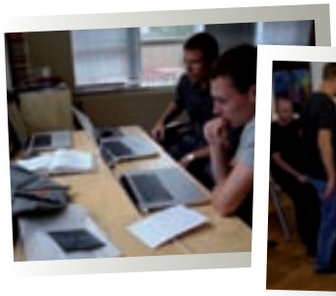
One aspect in Unity's favour is the price. If you want to dip your toes in the water, you can try the free 30-day trial and then buy the Unity indie licence for €149 (around £125), which is essentially a cut-down version of the main €1,099 package (£925).

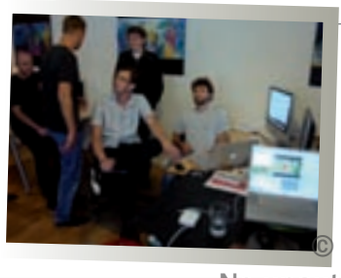
The indie package loses the video playback and streaming, render-to-texture effects, full-screen postprocessing effects, real-time shadows and low-level rendering access, while you must have a Unity splash screen or watermark on your work.

But you still get the integrated editor, built-in and custom shaders, optimised graphics, terrains, web browser integration and so much more. The idea is that it gives small developers a chance to try the tech and, when they've made enough cash with their debut game, move up the ladder.

Games made with Unity can be played as an executable file or within a web browser. As long as the gamer has the 3MB auto-installing Unity Web Player plug-in, they will be able to play titles in all modern browsers (except with Linux). It is also possible to produce games for the Nintendo Wii and the iPhone. This is more expensive, however, with







E Zerofractal works on visual design, 3D animation, video, virtual tours and web development. It is developing FractalReality, an interactive visual simulator for property project promotion

F The idea is that buyers can visit a project as it's being built and can use a gamepad to move around

G The project was put together using Unity 3D, and Zerofractal co-founder Alejandro Gonzales said it took two hours to get to grips with the app

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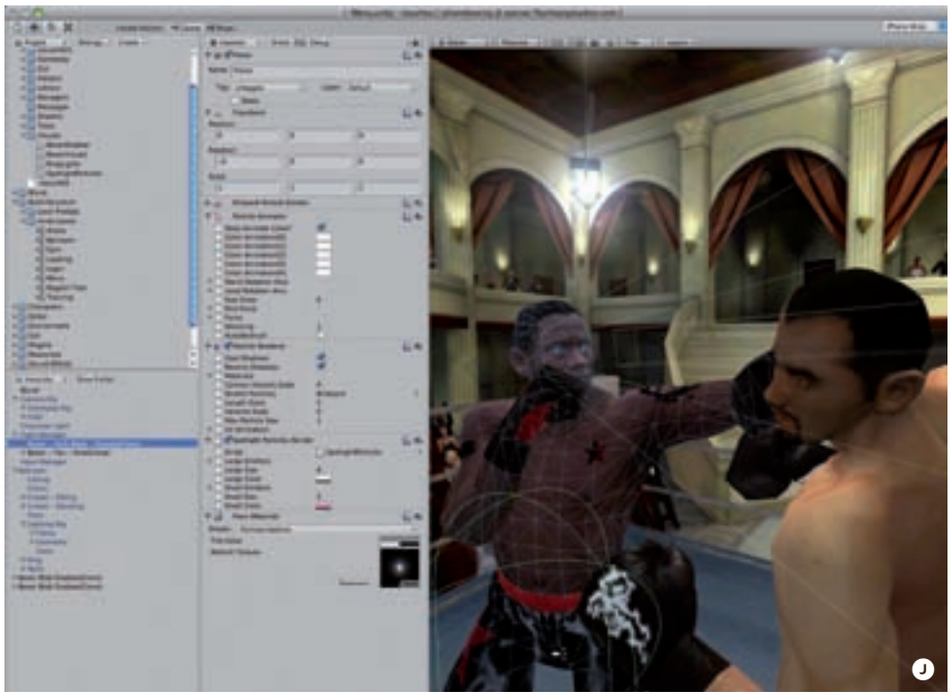

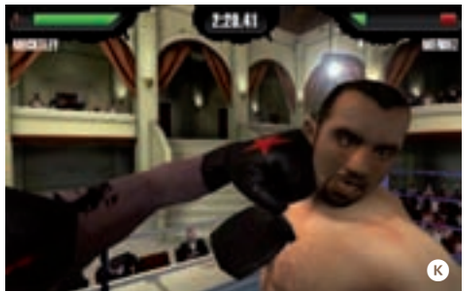

the iPhone packages costing €299 (£245) for the basic and €1,099 (£925) for the advanced. As for package prices for the Wii, you are asked to contact Unity's sales department...

Up until March this year, Unity was only available for the Mac. But now it has support for a full Windows editor and that has started to open up the engine to a raft of new non-Mac-using developers (although the iPhone development packages do still require an Apple computer).

And it's currently the iPhone package that is turning heads, with more than 200 games already having been made using Unity. It offers a live preview so you can test your game on an iPhone and it automatically compiles your code. You can also mimic the graphical capabilities of the iPhone inside the Unity Editor and you can make use of the device's full multitexture capabilities. It also has PRVTC texture compression to improve rendering performance and memory usage.

Since Unity also runs in a browser, it's conceptually a lot simpler to integrate with social networks so you can automatically populate the friend list from your real-life friends. For example, there's a great Facebook game called *Paradise Paintball* where you have a traditional first-person shooter playable in a browser and are able to play against friends.

It's also great for MMOs. Cartoon Network's *FusionFall* has a great start-up experience. Rather than having to download a 400MB game, they get you started with character creation right from the start, and while you're tweaking your clothes and looks it streams in the tutorial level. While playing the tutorial, it streams in the starting part of the world. It gives developers a chance to play with what's essentially an instant 'on' feature.

H With Unity, it is possible to use real-time shadows on any light

I Shadow mapping is a texture-based approach, and Unity says it is best to think of it as shadow textures, projecting out from lights on to the scene

J Videogame designers Adam and Matt Mechtley from 6ixset studios have used the full power of the Unity 3D game engine in creating *Touch KO*

K The game features detailed high-res textures, and it uses the AGEIA PhysX for powerful in-game physics

L It's possible to create very detailed 3D scenes with Unity

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Industry insider

Peter Eriksson

Art director, Valentin&Byhr, Sweden

Each issue, 3D Artist finds out how the top people in the 3D industry got their jobs and what you need to know to get a foot in the door

About

Job Art director
Education Comprehensive school and two years of upper secondary school
Company website www.valentin.se
Personal website www.bombim.com http://coolkonrad.cgsociety.org/
Biography I have been a graphic designer since I was 18 and took part in the 'desktop revolution'. I have worked with Photoshop since version 1.0. Drawing, sculpting and making models have always been big parts of my life. I live with my three daughters and my beautiful girlfriend

Peter Eriksson is the forty-year-old art director of Valentin&Byhr, one of Sweden's biggest advertising agencies. He works with a lot of different projects across various industries, and on a day-to-day basis he is charged with making sure that the client's work has the intended look, feel and message. Unusually for this day and age of courses and education placements for everything, Peter started out by studying Economy for two years and then taking some online courses in different software packages just for fun. Everything else was self-taught by watching a lot of software tutorials and following a bunch of design blogs. Eriksson does a lot of personal 3D sculpting at home, both for fun and for practice. Signing up to a forum and posting his works in progress has been good motivation to finish his personal projects.

A

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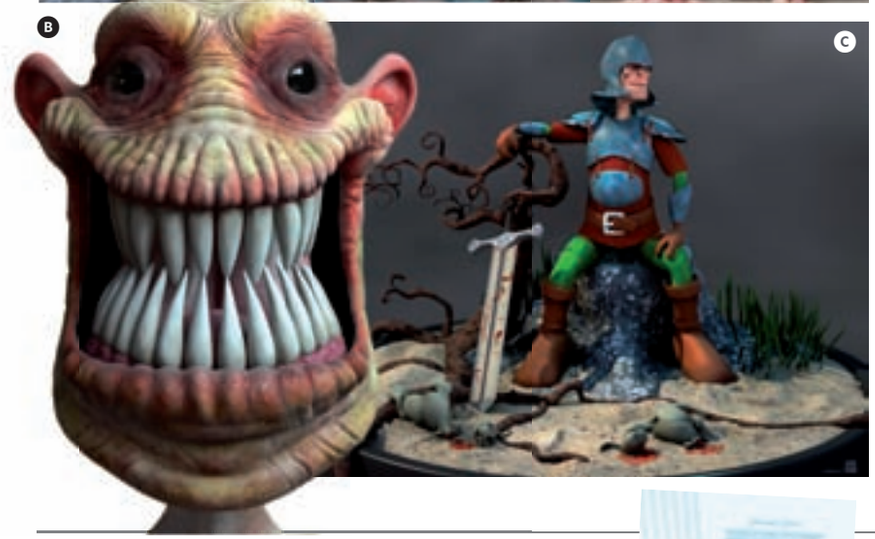

C

3D Artist: *For today's generation of students, what is the kind of educational grounding they should be looking to undertake to get a first job as an artist working for an advertising agency?*
Peter Eriksson: Try to find a course in PR, advertising, copywriting or project management near you. If you are a talented designer or a good sales person, you might get a non-profit trainee job. But in the end it all comes down to talent and your ability to sell yourself.

3DA: *What were you doing before you joined the company and how did you manage to get the job with Valentin&Byhr?*
PE: Since 1999, I had been working at another agency. Before that, though, I worked with press and graphic design in the printing industry. That's how I got my first job at an agency. It's always a big plus to have a good understanding of the printing process. I got my current job at Valentin&Byhr through personal contacts.

3DA: *Is there a lot of pressure to be creative and meet deadlines when you work for one of Sweden's leading agencies?*
PE: Yes, there is a lot of pressure. Deadlines are always short and they seem to get shorter every time, but you can't take the deadlines personally.

3DA: *What software packages and tools do you use at Valentin&Byhr?*
PE: We use Adobe's Photoshop, InDesign, Illustrator and After Effects. For 3D work, I use Luxology's modo, as well as CINEMA 4D and ZBrush.

3DA: *Do you think there is a shortage of skilled digital artists doing 3D art, creative art or concept/product CGI, and did you find it difficult getting into the industry yourself?*
PE: I don't think there is a shortage, but it's hard to

portfolio highlights

Here are some of the projects that Peter has worked on in his career

Lord of the Rings DVD release in the Nordic countries
Campaigns for all releases of the *Star Trek* TV series to DVD in the Nordic countries
Art director for all major DVD releases for Paramount Home Entertainment Nordic
Häagen-Dazs ice cream (adverts and more)
Green Giant (adverts, web and more)

A "This is an ongoing project. I try to make at least one head every two weeks using ZBrush and modo"

B "Sir Gerry is looking for blood. This was created in modo"

C "The Bunny Killer takes a break. This was created within modo"

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find really skilled and fast-working freelancers. And the ones I would like to work with already have jobs in the game or movie industries.

3DA: *What are the key skills required to work as an agency artist?*
PE: You must have a great imagination. You need to be able to understand the client's wants and needs and translate them into something that the consumer will pay for or do.

3DA: *If there was one feature missing from current software apps that you'd like to see implemented to help people working on either static and animated images for print and film, what would it be?*
PE: In 3D I would like to get rid of the UV maps and not have to worry about poly flow. I'd like a way to work in X and Y symmetry in Photoshop, like when you sculpt in modo or ZBrush. It would be great to either subscribe or just pay a small sum every time you use a useful and nonstandard filter in Photoshop. Make an App Store for Photoshop filters! How about one program with all the features from Photoshop, Illustrator, InDesign, After Effects, Acrobat, Dreamweaver and so on? You could pay a small sum every time you unlock a feature that you need.

3DA: *Do you have a personal philosophy or approach to life and do you try to bring that to your work?*
PE: Don't take your job too seriously, but try to do the best you can. If you don't like what you are doing, do something else. And be nice!

3DA: *Professionally, what's the most satisfying project you've worked on and why?*
PE: It was a job for a company that makes closed-cycle installations for biological degreasing, hot-dip galvanising and air/water treatment. It doesn't sound sexy, I know, but the job was to make the user understand what the product was all about, and to make it readable, fun to look at and to convince the buyer to spend their money.

3DA: *What would be your dream project to work on?*
PE: To be a part of a design team for a science fiction or fantasy movie. And after the preproduction stage, to work with the special effects and design the poster artwork. It has been my dream since I first saw *Star Wars* on 24 September 1979!

D "*Happy Astronaut*. This was created in modo"

E "This is one of my favourite comic characters. He's called Arzach, and was created by Jean Giraud aka Moebius. For this, I used modo and Photoshop"

F "Quick cowboy character. Created in modo"

G "An alien walking his dog. Created with modo and Photoshop"

H "This is my entry for CGSociety Challenge XXI – Strange Behaviour (Illustration) using modo and Photoshop"

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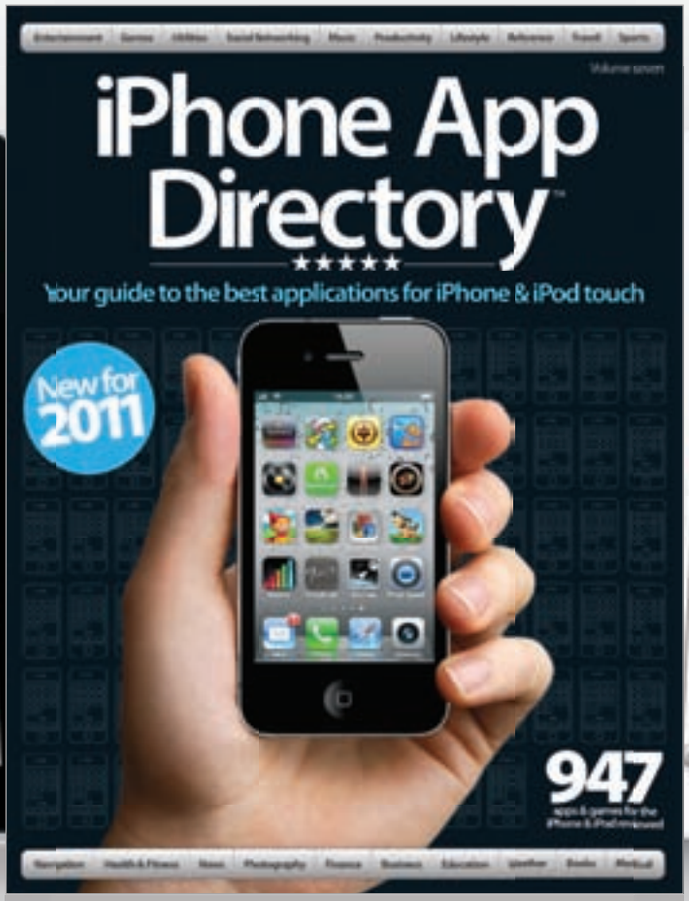
It's a jungle out there. Swing through it

iPad



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University of Cumbria

BA (Hons) Animation

This month we've gone back to Cumbria to look at the latest developments in its courses and see the final-year work from the students on the BA (Hons) Multimedia and Digital Animation course. This is being phased out this year in favour of BA (Hons) Animation, FDA The Art of Games Design and MA Digital Arts courses.

The BA (Hons) Animation course is designed for those interested in the media of animation and its creative possibilities. It is a highly technical and practical programme of study, which affords individual learners flexibility in their choice of specialisation. However, while the programme is geared towards providing an environment for the innovative practice of animation media, the recognition of the wider creative and artistic value that participation in the course will offer is an essential part of the overall course philosophy.

The multidisciplinary nature of the course translates in a wide range of modules, each of which explores creatively and technically one interrelated constituent of the media of animation. An important part of the course will involve animators analysing each other's work within the group, a process that's decisive to improving self-critical abilities. The programme will develop students' creative minds and technical abilities, giving them the autonomy to develop an idea from scripting to final completion.

University of Cumbria

Course details

Tel (Admissions) +44 (0)845 6061144
(Course team) +44 (0)1228 400354

Web http://digitalarts.cumbria.ac.uk/
www.cumbria.ac.uk

Duration Three years

Fees £3,225 a year

ENTRY REQUIREMENTS
BA (Hons) Animation
240 UCAS points from GCE A-Levels (or equivalent qualifications)
Portfolio required for interview

Ⓐ M2 Scorpion
» **Eddie Mzale**
Softimage, Photoshop and After Effects
"*Scorpion* was part of a series of eight images produced for my final major project over a period of eight months in total"

Ⓐ

"I came to study at the University of Cumbria because a tutor visited my college and showed high standards of work from first to third year. On the course, I liked the group work and the freedom that the project briefs gave you"

Jennifer Darcy 2009

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Uni focus

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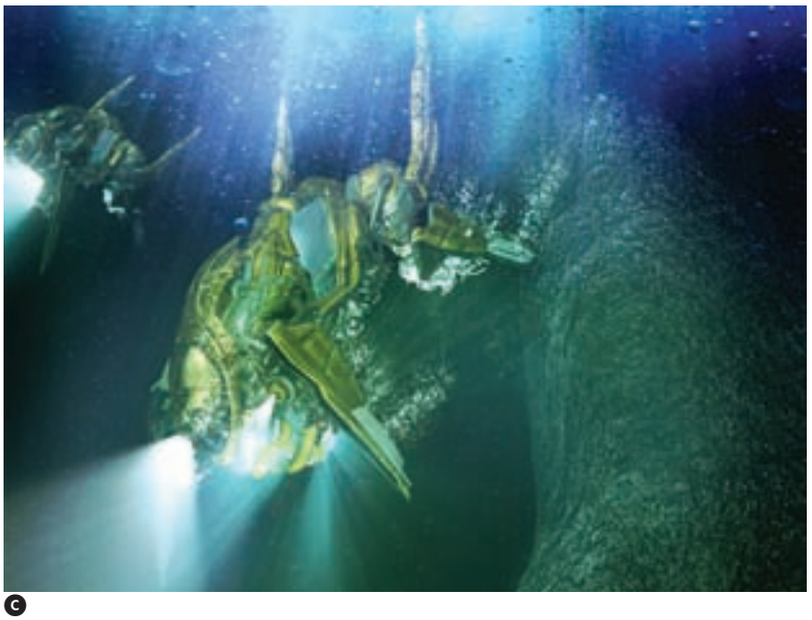

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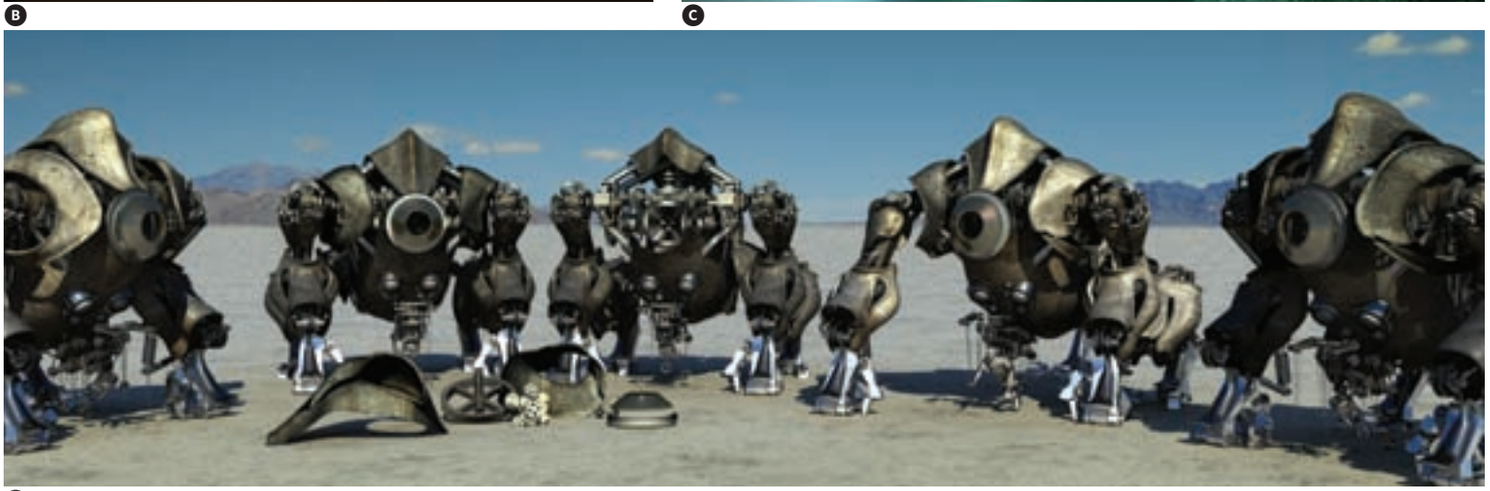

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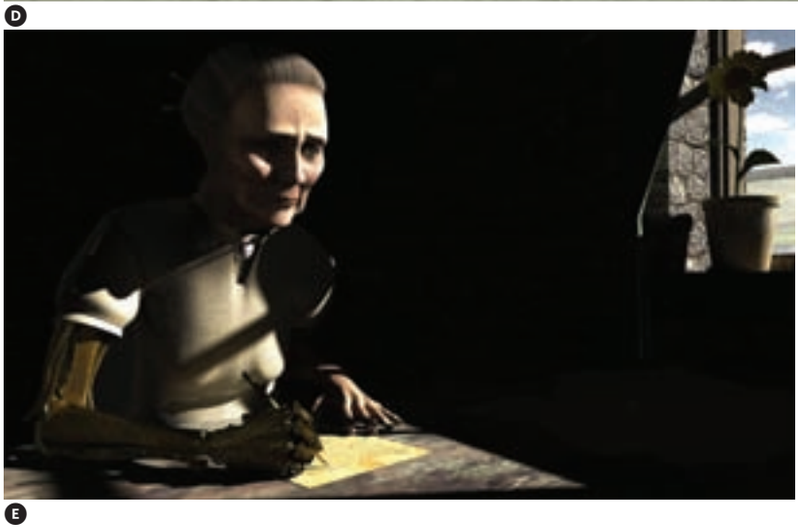

E

F

B Star Light
» **Jennifer Darcy**
Softimage, Photoshop and After Effects
"'Star Light' was a two-and-a-half-minute short film that was produced for my final major project over a period of eight months in total."

C Amphipode
» **Eddie Mzale**
Softimage, Photoshop and After Effects
"*Amphipode* was part of a series of eight images that were produced for my final major project over a period of eight months in total."

D Exo Skeleton
» **Dominic Wilkinson**
Softimage, Photoshop and After Effects
"*Exo Skeleton* was part of a series of eight images that were produced for my final major project over a period of eight months in total."

E Old Woman
» **Eddie Mzale**
Softimage, Photoshop and After Effects
"*Old Woman* was part of a series of eight images that were produced for my final major project over a period of eight months in total."

F Robot Response
» **Eddie Mzale**
Softimage, Photoshop and After Effects
"*Robot Response* was part of a series of eight images that were produced for my final major project over a period of eight months in total."

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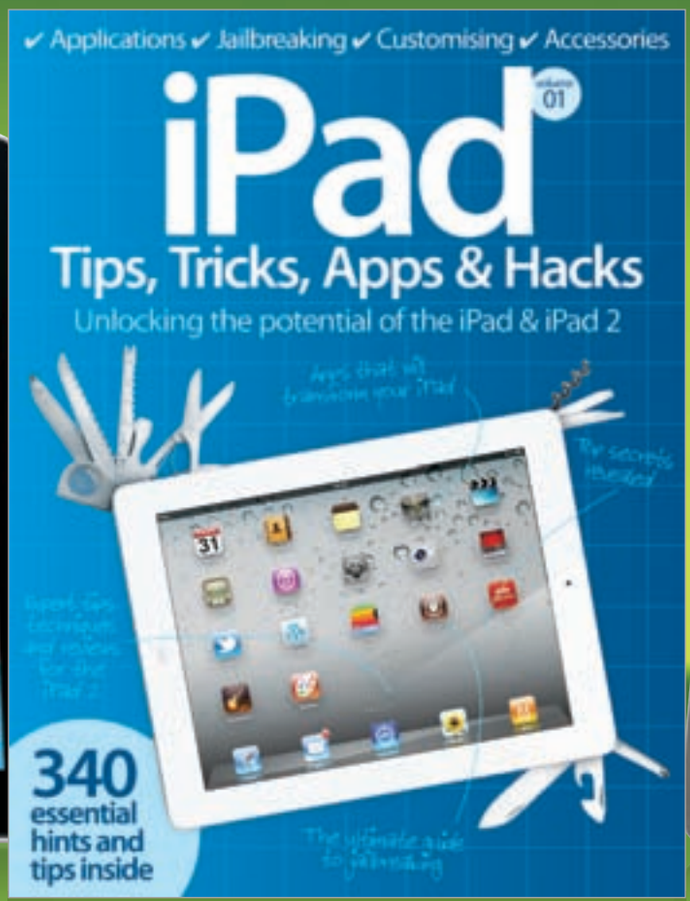

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